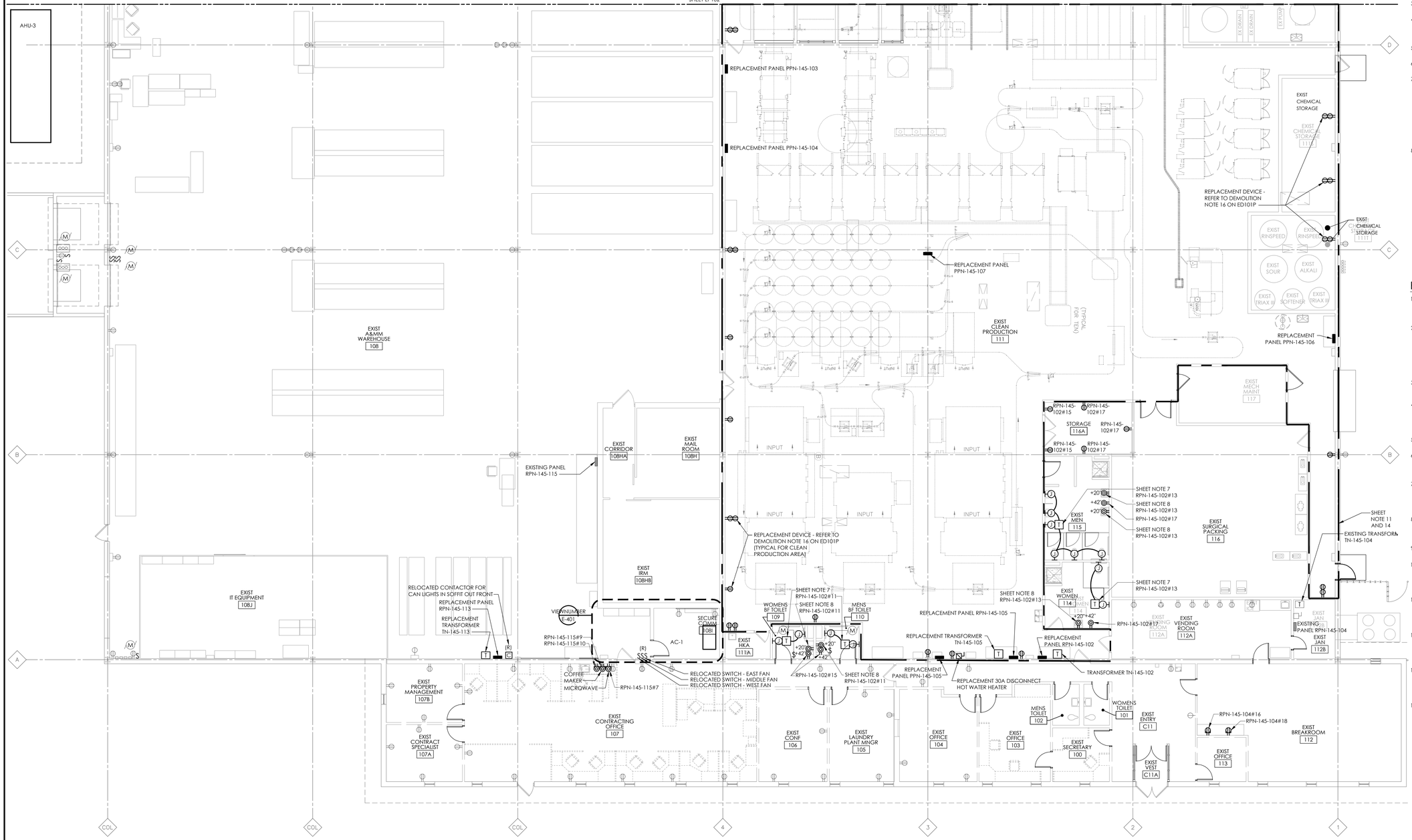

FIRST FLOOR POWER PLAN - AREA A

1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS FOR COORDINATION OF ELECTRICAL DEVICES.
3. REFER TO CODE COMPLIANCE PLANS FOR FIRE BARRIERS, EGRESS PATHS AND TRAVEL DISTANCES ON SHEET GI002 THOUGH GI006.
4. REFER TO PHASING PLANS AND CONSTRUCTION ACCESS PLAN FOR COORDINATION OF ELECTRICAL DEVICES, EQUIPMENT, TEMPORARY PARTITION LOCATIONS, DEMOLITION AND INSTALLATION TIMING OF WORK ON SHEET NOS. GC100 AND IN SPECIFICATIONS.
5. REFER TO ARCHITECTURAL SHEETS FOR RATED WALL LOCATIONS, FLOOR SAW CUTTING AND REPAIR INFORMATION.
6. REFER TO MECHANICAL/ELECTRICAL SCHEDULES AND NOTES ON SHEETS ME601 FOR ADDITIONAL INFORMATION.
7. THE FOLLOWING SHADING INDICATES:

   SHADING INDICATES AREA OF EXISTING DEVICES, EQUIPMENT, AND FEEDERS TO REMAIN UNLESS NOTED OTHERWISE. AREAS FEATURING NO SHADING INDICATE WORK TO BE DEMOLISHED, FURNISHED AND INSTALLED UNDER THIS CONTRACT UNLESS NOTED OTHERWISE. ALL CIRCUITS/HOME RUNS OVERLAPPING WORK SCOPE AREA IS INCLUDED UNDER THIS CONTRACT.

8. THE FOLLOWING LINEWEIGHTS INDICATE:

   LIGHT SOLID LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO REMAIN AND ARE SHOWN FOR REFERENCE ONLY. EXISTING LOCATIONS AND LAYOUT MAY DIFFER FROM LAYOUT SHOWN. FIELD VERIFY EXACT LOCATIONS AND LAYOUT.

   DARK (BOLD) DASHED LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE REMOVED OR RELOCATED UNDER THIS CONTRACT. RELOCATED ITEMS WILL BE DESIGNATED WITH AN "(R)" NEXT TO THE EQUIPMENT OR FEEDER.

   DARK (BOLD) SOLID LINES INDICATE EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT.

POWER NOTES

1. FURNISH AND INSTALL AN EQUIPMENT GROUNDING CONDUCTOR WITHIN THE RACEWAY(S) ALONG WITH PHASE CONDUCTORS FOR ALL FEEDERS AND BRANCH CIRCUITS. CONDUIT IS NOT PERMITTED TO ACT AS AN EQUIPMENT GROUNDING CONDUCTOR UNLESS NOTED OTHERWISE.
2. FURNISH AND INSTALL A 4 INCH SQUARE BY 2-1/2 INCH DEEP OUTLET BOX WITH GFCI RECEPTACLE AT 24 INCHES ABOVE FINISHED FLOOR AND LOCATED UNDER SINK(S) FOR 24-VOLT WIRING OF EACH FAUCET INFRARED OPERATOR. LOCATE OUTLET BOX PER PLUMBING FIXTURE MANUFACTURER'S INSTRUCTIONS. CONNECT INFRARED FAUCETS FOR SINKS TO 120/24V TRANSFORMER SERVING URINAL AND WATER CLOSET FLUSH VALVES. DO NOT EXCEED TEN (10) FLUSH VALVES OR FAUCETS. COORDINATE LOCATION AND ROUTING WITH SENSOR SYSTEM INSTALLER.
3. ALL 120V RECEPTACLES WITHIN 6 FEET OF SINKS SHALL BE GFCI TYPE. ALL MULTI-OUTLET STRIPS MOUNTED WITHIN 6 FEET OF SINKS SHALL BE CONNECTED TO GFCI BREAKERS.
4. LETTERS AND NUMBERS IN PARENTHESIS, LOCATED NEXT TO ELECTRICAL DEVICES, FOLLOWING ROOM NAMES AND NUMBERS, REPRESENT PANEL DESIGNATIONS AND CORRESPONDING CIRCUIT NUMBERS. CIRCUIT NUMBERS INDICATED FOR EXISTING PANELS ARE SCHEMATIC ONLY. FIELD VERIFY EXACT CIRCUIT NUMBERS.
5. HCF/MC CABLE IS NOT ACCEPTABLE EXCEPT FOR LIGHT FIXTURE WHIPS FROM JUNCTION BOX TO FIXTURES ONLY. MAXIMUM 6'-0" IN LENGTH
6. FURNISH AND INSTALL PLUGSTRIP WITH DUPLEX RECEPTACLES, USE WIREMOLD "5200" SERIES RACEWAY OR EQUAL WITH THE SALIENT CHARACTERISTICS OF THE SPECIFIED PRODUCT BY HUBBELL, PANDUIT, OR MONO-SYSTEMS. REFER TO DETAIL ON SHEET EP501.
7. INSTALL 120V JUNCTION BOX, 24V AC POWER SUPPLY/TRANSFORMER, AND WIRING TO SENSORS PROVIDED BY PLUMBING CONTRACTOR FOR URINAL AND TOILET FLUSH VALVES IN CEILING SPACE. CONNECT UP TO EIGHT FLUSH VALVES PER TRANSFORMER. ROUGH-IN REQUIREMENTS, EXACT LOCATION OF OUTLET BOXES AND WIRING PER MANUFACTURER'S INSTRUCTIONS.
8. INSTALL 120V OUTLET, 24V AC POWER SUPPLY TRANSFORMER AND WIRING TO SENSORS PROVIDED BY PLUMBING CONTRACTOR FOR ELECTRONIC FAUCET CONTROL BELOW COUNTERTOP. CONNECT UP TO SIX FAUCETS PER TRANSFORMER. WIRING PER MANUFACTURER'S INSTRUCTIONS.
9. 120 VOLT CIRCUIT TO JUNCTION BOX ABOVE CEILING FOR PLUMBING FIXTURE (URINAL, WATER CLOSET, AND FAUCETS) AUTOMATIC SENSORS.
10. FURNISH AND INSTALL STEP-DOWN TRANSFORMER FOR CONTROL POWER OF MECHANICAL AIR TERMINAL UNITS. TRANSFORMER SHALL BE RATED CLASS II, 1.0KVA, 277 VOLT PRIMARY/24V SECONDARY, MOUNT ON WALL WHERE INDICATED. COORDINATE WITH TERMINAL UNIT AND CONTROL CONTRACTOR.
11. ALL WORK IN THIS AREA SHALL CONFORM TO HAZARDOUS CLASSIFICATION RATING CLASS III, DIVISION 2, GROUP A, B, C, AND D. ELECTRICAL EQUIPMENT AND DEVICE INSTALLATION INCLUDING CONDUIT, WIRING, SEALS, ETC. PER NEC. DO NOT ROUTE CONDUIT FOR OTHER AREAS THRU THIS HAZARDOUS CLASSIFICATION AREA.
12. REPLACE ELECTRICAL DEVICES, BACKBOXES, CONDUIT, AND WIRING FROM SOURCE OR HAZARDOUS BOUNDARY. REUSE EXISTING CONDUIT AND WIRING FOR INSTALLATION OF REPLACEMENT ELECTRICAL DEVICE IF COMPLIANT WITH POWER NOTE 11. REFER TO DEMOLITION SHEETS FOR ADDITIONAL INFORMATION.
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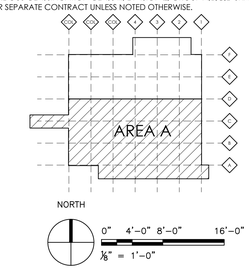
14. UPGRADING OF LAUNDRY EQUIPMENT FEEDERS AND BRANCH CIRCUITS TO HAZARDOUS CLASSIFICATION CLASS III, DIVISION 2, GROUP A,B,C,D SHALL BE UNDER SEPARATE CONTRACT UNLESS NOTED OTHERWISE.



FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date
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ISSUE 006 - BID	06/12/15
ISSUE 005 - CD OWNER REVIEW (REVISED)	02/13/15
ISSUE 004 - CD OWNER REVIEW	11/20/14
ISSUE 003 - SD-DD OWNER REVIEW	10/15/14

CONSULTANTS:

ARCHITECT/ENGINEERS:

Albert Kahn Associates, Inc.
Albert Kahn Building
7430 Second Ave.
Detroit, Michigan 48202-2798

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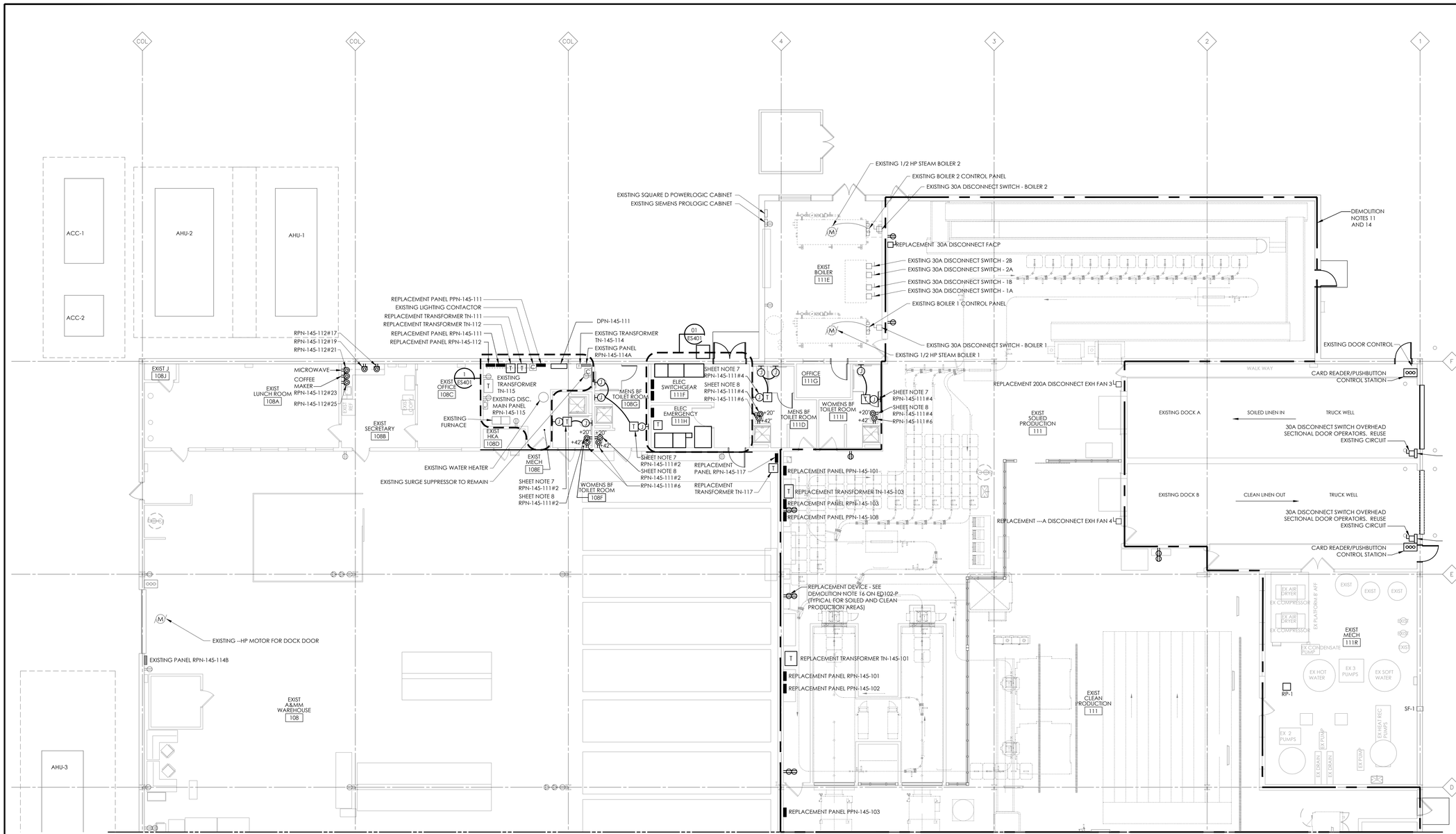
ALBERT KAHN JOB # 03150-ED.000

Drawing Title: FIRST FLOOR POWER PLAN - AREA A
Approved: P. GARLAND
Project Title: RENOVATE B-145
Location: BATTLE CREEK, MICHIGAN
Date: 06/12/15
Checked: PMW
Drawn: PMW, FED
Project Number: 515-10-122
Building Number: B-145
Drawing Number: EP101
Dwg. 59 of 78

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



FIRST FLOOR POWER PLAN - AREA B

1/8" = 1'-0"

GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS FOR COORDINATION OF ELECTRICAL DEVICES.
3. REFER TO CODE COMPLIANCE PLANS FOR FIRE BARRIERS, EGRESS PATHS AND TRAVEL DISTANCES ON SHEET GI002 THOUGH GI006.
4. REFER TO PHASING PLANS AND CONSTRUCTION ACCESS PLAN FOR COORDINATION OF ELECTRICAL DEVICES, EQUIPMENT, TEMPORARY PARTITION LOCATIONS, DEMOLITION AND INSTALLATION TIMING OF WORK ON SHEET NOS. GC100 AND IN SPECIFICATIONS.
5. REFER TO ARCHITECTURAL SHEETS FOR RATED WALL LOCATIONS, FLOOR SAW CUTTING AND REPAIR INFORMATION.
6. REFER TO MECHANICAL/ELECTRICAL SCHEDULES AND NOTES ON SHEETS ME601 FOR ADDITIONAL INFORMATION.
7. THE FOLLOWING SHADING INDICATES:

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   DARK (BOLD) SOLID LINES INDICATE EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT.

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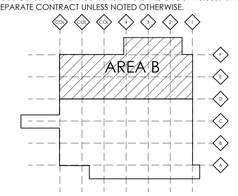

NORTH

0" 4'-0" 8'-0" 16'-0"
1/8" = 1'-0"

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

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ISSUE 003 - SD-DD OWNER REVIEW	10/15/14

CONSULTANTS:

ARCHITECT/ENGINEERS:

Albert Kahn Associates, Inc.
Albert Kahn Building
7430 Second Ave.
Detroit, Michigan 48202-2798

Drawing Title: FIRST FLOOR POWER PLAN - AREA B

Approved: P. GARLAND

Project Title: RENOVATE B-145

Location: BATTLE CREEK, MICHIGAN

Date: 06/12/15 | Checked: PMW | Drawn: FED

Project Number: 515-10-122

Building Number: B-145

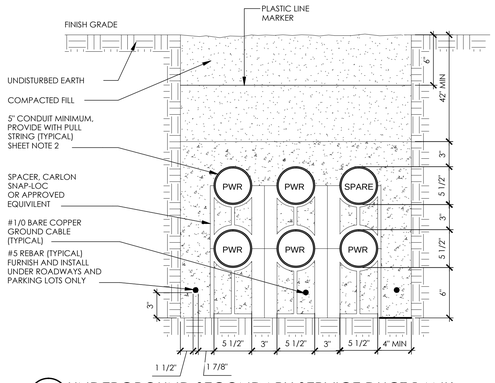
Drawing Number: EP102

Dwg. 60 of 78

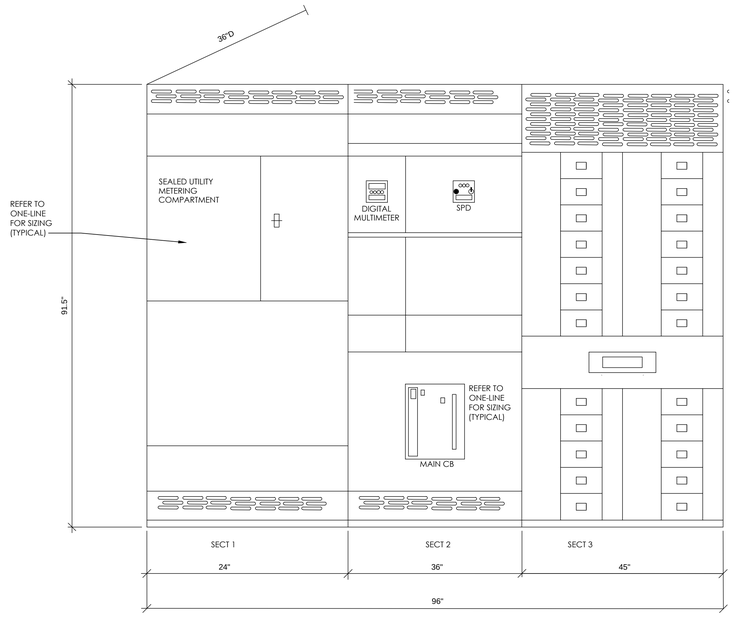
Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231



3 UNDERGROUND SECONDARY SERVICE DUCT BANK
NOT TO SCALE



1 MSB SWITCHBOARD - FRONT ELEVATION
NOT TO SCALE

GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS FOR COORDINATION OF ELECTRICAL DEVICES.
3. REFER TO CODE COMPLIANCE PLANS FOR FIRE BARRIERS, EGRESS PATHS AND TRAVEL DISTANCES ON SHEET GI002 THOUGH GI006.
4. REFER TO PHASING PLANS AND CONSTRUCTION ACCESS PLAN FOR COORDINATION OF ELECTRICAL DEVICES, EQUIPMENT, TEMPORARY PARTITION LOCATIONS, DEMOLITION AND INSTALLATION TIMING OF WORK ON SHEET NOS. GC100 AND IN SPECIFICATIONS.
5. REFER TO ARCHITECTURAL SHEETS FOR RATED WALL LOCATIONS, FLOOR SAW CUTTING AND REPAIR INFORMATION.
6. REFER TO MECHANICAL/ELECTRICAL SCHEDULES AND NOTES ON SHEETS ME601 FOR ADDITIONAL INFORMATION.
7. THE FOLLOWING SHADING INDICATES:

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8. THE FOLLOWING LINEWEIGHTS INDICATE:

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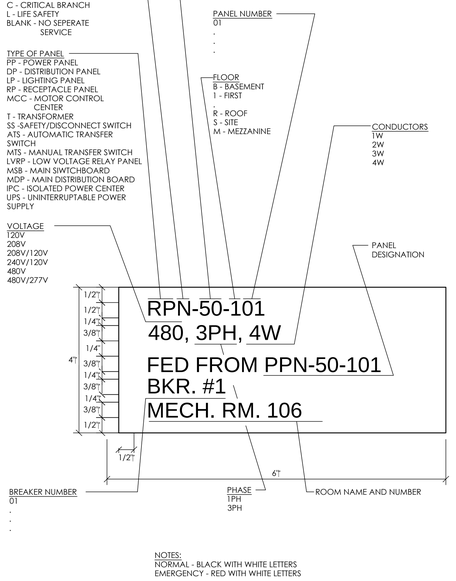
   DARK (BOLD) SOLID LINES INDICATE EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT.

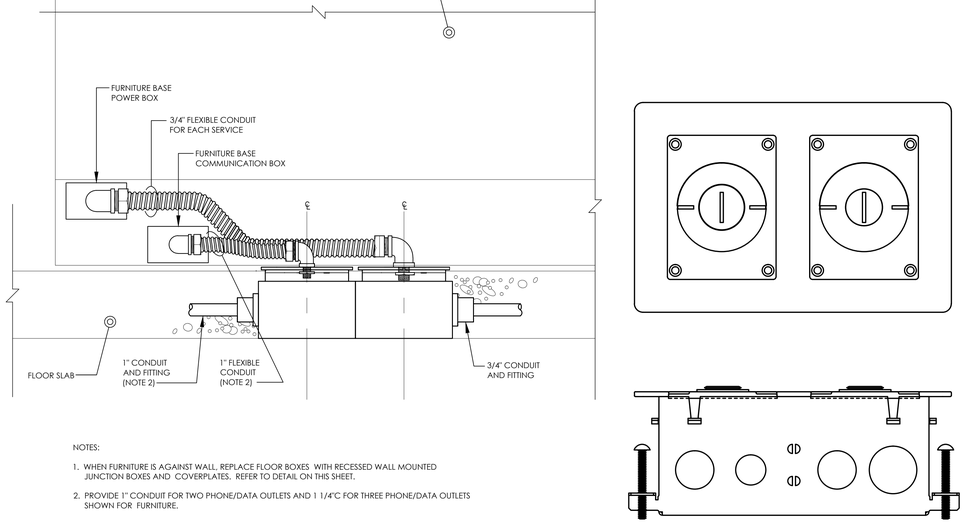
SHEET NOTES:

1. ALL NEW IT DUCT TO BE 4" PVC, CONCRETE ENCASED.
2. ALL NEW SKV DUCT TO BE 5" PVC, CONCRETE ENCASED.
3. ALL SKV ELECTRICAL EQUIPMENT SHALL BE RATED FOR 15KV.
4. CONCRETE ENCASEMENT OF DUCT BANKS IS NOT REQUIRED BELOW SLAB WITHIN BUILDING FOOTPRINT.



NOTES:
NORMAL - BLACK WITH WHITE LETTERS
EMERGENCY - RED WITH WHITE LETTERS

4 TYPICAL PANEL NAMEPLATE
NOT TO SCALE



NOTES:

1. WHEN FURNITURE IS AGAINST WALL, REPLACE FLOOR BOXES WITH RECESSED WALL MOUNTED JUNCTION BOXES AND COVERPLATES. REFER TO DETAIL ON THIS SHEET.
2. PROVIDE 1" CONDUIT FOR TWO PHONE/DATA OUTLETS AND 1 1/4"C FOR THREE PHONE/DATA OUTLETS SHOWN FOR FURNITURE.

2 DETAIL OF FURNITURE BASE CONNECTIONS FOR POWER-IN AND COMMUNICATIONS
NOT TO SCALE

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

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CONSULTANTS:

ARCHITECT/ENGINEERS:

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Detroit, Michigan 48202-2798
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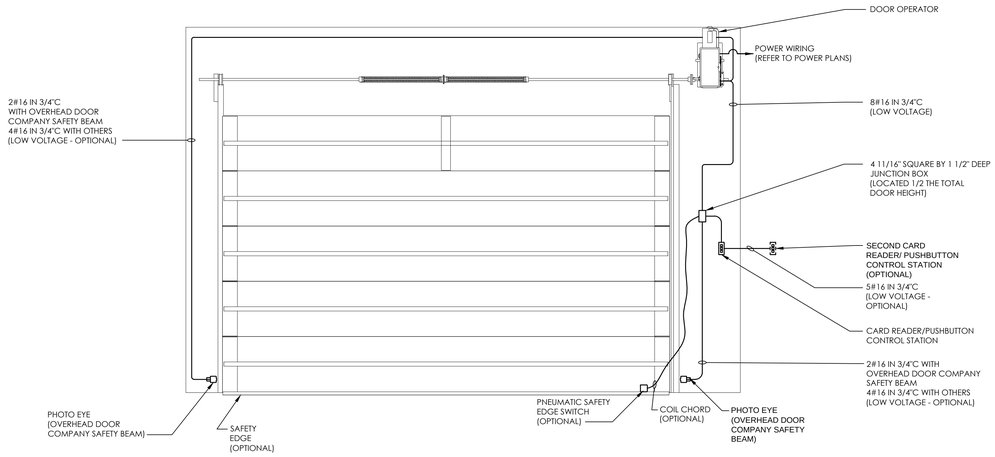
ALBERT KAHN JOB # 03150-E0.000

Drawing Title: POWER DETAILS
Approved: P. GARLAND
Project Title: RENOVATE B-145
Location: BATTLE CREEK, MICHIGAN
Date: 06/12/15
Checked: PMW
Drawn: PMW,FED
Project Number: 515-10-122
Building Number: B-145
Drawing Number: EP501
Dwg. 61 of 78

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

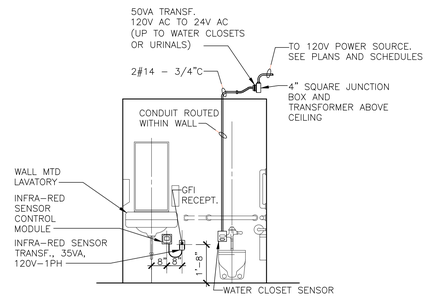


NOTES

1. DOOR DETAIL BASED ON OVERHEAD THERMACORE DOOR SERIES WITH RHX SERIES DOOR OPERATOR. ELECTRICAL CONTRACTOR TO ADJUST AS REQUIRED FOR ALTERNATE MANUFACTURER.
2. ELECTRICAL CONTRACTOR TO COORDINATE CONNECTION POINTS, WIRING, AND TERMINATIONS WITH DOOR MANUFACTURER/VENDOR.

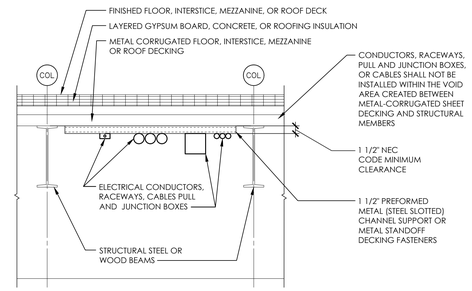
3 OVERHEAD SECTIONAL DOOR DETAIL

FULL SCALE



1 SINGLE OCCUPANT TOILET ROOM – ELECTRICAL SENSOR ELEVATION

NOT TO SCALE



2 CONDUIT AND WIREWAY MOUNTING DETAIL

NOT TO SCALE

GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS FOR COORDINATION OF ELECTRICAL DEVICES.
3. REFER TO CODE COMPLIANCE PLANS FOR FIRE BARRIERS, EGRESS PATHS AND TRAVEL DISTANCES ON SHEET G1002 THOUGH G1006.
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ALBERT KAHN JOB # 03150-E0.000

Drawing Title	POWER DETAILS
Approved	P. GARLAND
Project Title	RENOVATE B-145
Location	BATTLE CREEK, MICHIGAN
Date	06/12/15
Checked	PMW
Drawn	PMW, FED
Project Number	515-10-122
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Drawing Number	EP502
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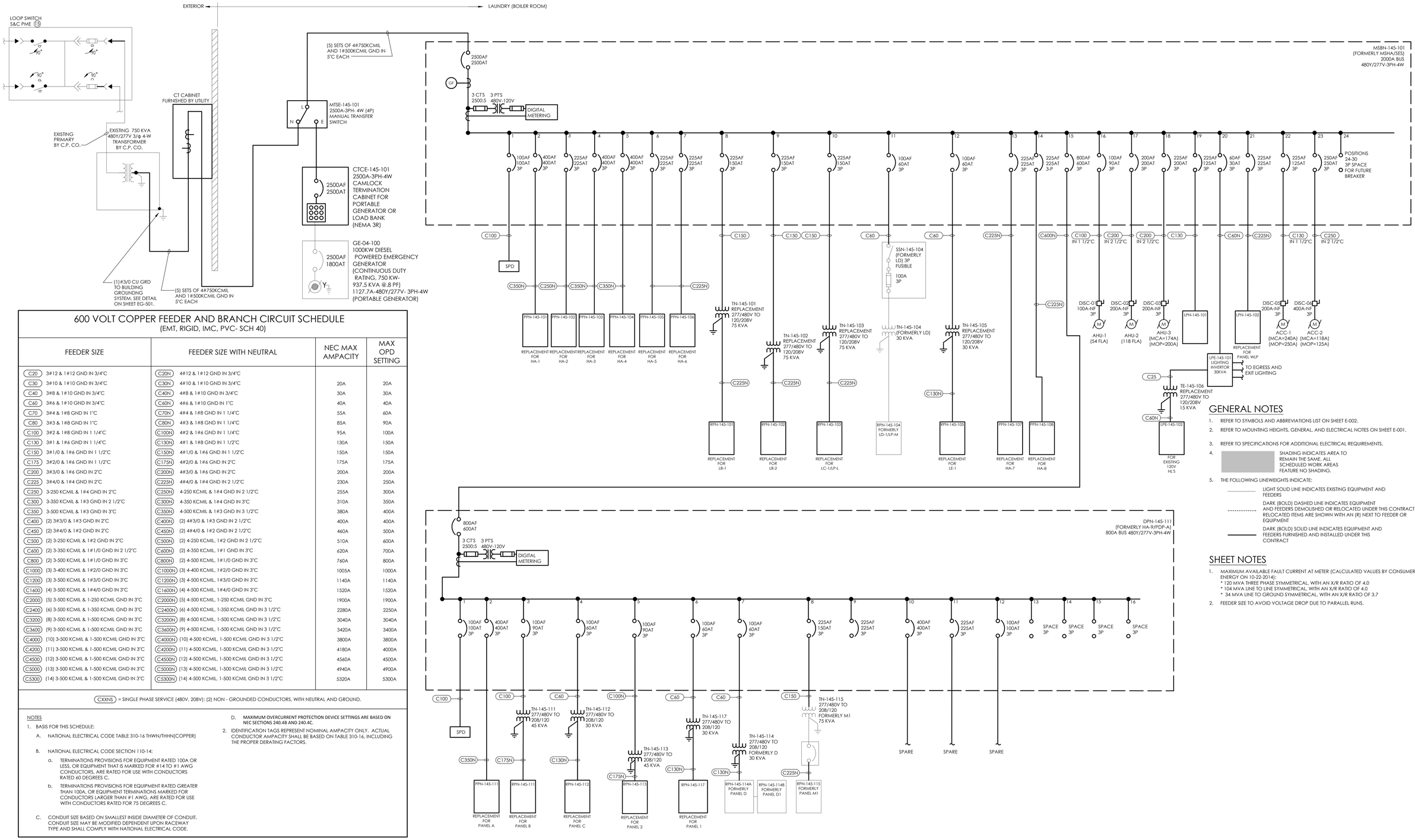
Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231



600 VOLT COPPER FEEDER AND BRANCH CIRCUIT SCHEDULE
(EMT, RIGID, IMC, PVC- SCH 40)

FEEDER SIZE	FEEDER SIZE WITH NEUTRAL	NEC MAX AMPACITY	MAX OPD SETTING
C20 3#12 & 1#12 GND IN 3/4"C	C20N 4#12 & 1#12 GND IN 3/4"C		
C30 3#10 & 1#10 GND IN 3/4"C	C30N 4#10 & 1#10 GND IN 3/4"C	20A	20A
C40 3#8 & 1#10 GND IN 3/4"C	C40N 4#8 & 1#10 GND IN 3/4"C	30A	30A
C60 3#6 & 1#10 GND IN 3/4"C	C60N 4#6 & 1#10 GND IN 1"C	40A	40A
C70 3#4 & 1#8 GND IN 1"C	C70N 4#4 & 1#8 GND IN 1 1/4"C	55A	60A
C80 3#3 & 1#8 GND IN 1"C	C80N 4#3 & 1#8 GND IN 1 1/4"C	85A	90A
C100 3#2 & 1#8 GND IN 1 1/4"C	C100N 4#2 & 1#6 GND IN 1 1/4"C	95A	100A
C130 3#1 & 1#6 GND IN 1 1/4"C	C130N 4#1 & 1#8 GND IN 1 1/2"C	130A	150A
C150 3#1/0 & 1#6 GND IN 1 1/2"C	C150N 4#1/0 & 1#6 GND IN 1 1/2"C	150A	150A
C175 3#2/0 & 1#6 GND IN 1 1/2"C	C175N 4#2/0 & 1#6 GND IN 2"C	175A	175A
C200 3#3/0 & 1#6 GND IN 2"C	C200N 4#3/0 & 1#6 GND IN 2"C	200A	200A
C225 3#4/0 & 1#4 GND IN 2"C	C225N 4#4/0 & 1#4 GND IN 2 1/2"C	230A	250A
C250 3-250 KCMIL & 1#4 GND IN 2"C	C250N 4-250 KCMIL & 1#4 GND IN 2 1/2"C	255A	300A
C300 3-350 KCMIL & 1#3 GND IN 2 1/2"C	C300N 4-350 KCMIL & 1#4 GND IN 3"C	310A	350A
C350 3-500 KCMIL & 1#3 GND IN 3"C	C350N 4-500 KCMIL & 1#3 GND IN 3 1/2"C	380A	400A
C400 (2) 3#3/0 & 1#3 GND IN 2"C	C400N (2) 4#3/0 & 1#3 GND IN 2 1/2"C	400A	400A
C450 (2) 3#4/0 & 1#2 GND IN 2"C	C450N (2) 4#4/0 & 1#2 GND IN 2 1/2"C	460A	500A
C500 (2) 3-250 KCMIL & 1#2 GND IN 2"C	C500N (2) 4-250 KCMIL, 1#2 GND IN 2 1/2"C	510A	600A
C600 (2) 3-350 KCMIL & 1#1/0 GND IN 2 1/2"C	C600N (2) 4-350 KCMIL, 1#1 GND IN 3"C	620A	700A
C800 (2) 3-500 KCMIL & 1#1/0 GND IN 3"C	C800N (2) 4-500 KCMIL, 1#1/0 GND IN 3"C	760A	800A
C1000 (3) 3-400 KCMIL & 1#2/0 GND IN 3"C	C1000N (3) 4-400 KCMIL, 1#2/0 GND IN 3"C	1005A	1000A
C1200 (3) 3-500 KCMIL & 1#3/0 GND IN 3"C	C1200N (3) 4-500 KCMIL, 1#3/0 GND IN 3"C	1140A	1140A
C1600 (4) 3-500 KCMIL & 1#4/0 GND IN 3"C	C1600N (4) 4-500 KCMIL, 1#4/0 GND IN 3"C	1520A	1520A
C2000 (5) 3-500 KCMIL & 1-250 KCMIL GND IN 3"C	C2000N (5) 4-500 KCMIL, 1-250 KCMIL GND IN 3"C	1900A	1900A
C2400 (6) 3-500 KCMIL & 1-350 KCMIL GND IN 3"C	C2400N (6) 4-500 KCMIL, 1-350 KCMIL GND IN 3 1/2"C	2280A	2250A
C3200 (8) 3-500 KCMIL & 1-500 KCMIL GND IN 3"C	C3200N (8) 4-500 KCMIL, 1-500 KCMIL GND IN 3 1/2"C	3040A	3040A
C3600 (9) 3-500 KCMIL & 1-500 KCMIL GND IN 3"C	C3600N (9) 4-500 KCMIL, 1-500 KCMIL GND IN 3 1/2"C	3420A	3400A
C4000 (10) 3-500 KCMIL & 1-500 KCMIL GND IN 3"C	C4000N (10) 4-500 KCMIL, 1-500 KCMIL GND IN 3 1/2"C	3800A	3800A
C4200 (11) 3-500 KCMIL & 1-500 KCMIL GND IN 3"C	C4200N (11) 4-500 KCMIL, 1-500 KCMIL GND IN 3 1/2"C	4180A	4000A
C4500 (12) 3-500 KCMIL & 1-500 KCMIL GND IN 3"C	C4500N (12) 4-500 KCMIL, 1-500 KCMIL GND IN 3 1/2"C	4560A	4500A
C5000 (13) 3-500 KCMIL & 1-500 KCMIL GND IN 3"C	C5000N (13) 4-500 KCMIL, 1-500 KCMIL GND IN 3 1/2"C	4940A	4900A
C5300 (14) 3-500 KCMIL & 1-500 KCMIL GND IN 3"C	C5300N (14) 4-500 KCMIL, 1-500 KCMIL GND IN 3 1/2"C	5320A	5300A

CXXNS = SINGLE PHASE SERVICE (480V, 208V): (2) NON - GROUNDED CONDUCTORS, WITH NEUTRAL AND GROUND.

NOTES

1. BASIS FOR THIS SCHEDULE:
   - A. NATIONAL ELECTRICAL CODE TABLE 310-16 THWN/THHN(COPPER)
   - B. NATIONAL ELECTRICAL CODE SECTION 110-14:
     - a. TERMINATIONS PROVISIONS FOR EQUIPMENT RATED 100A OR LESS, OR EQUIPMENT THAT IS MARKED FOR #14 TO #1 AWG CONDUCTORS, ARE RATED FOR USE WITH CONDUCTORS RATED 60 DEGREES C.
     - b. TERMINATIONS PROVISIONS FOR EQUIPMENT RATED GREATER THAN 100A, OR EQUIPMENT TERMINATIONS MARKED FOR CONDUCTORS LARGER THAN #1 AWG, ARE RATED FOR USE WITH CONDUCTORS RATED FOR 75 DEGREES C.
   - C. CONDUIT SIZE BASED ON SMALLEST INSIDE DIAMETER OF CONDUIT. CONDUIT SIZE MAY BE MODIFIED DEPENDENT UPON RACEWAY TYPE AND SHALL COMPLY WITH NATIONAL ELECTRICAL CODE.
   - D. MAXIMUM OVERCURRENT PROTECTION DEVICE SETTINGS ARE BASED ON NEC SECTIONS 240.4B AND 240.4C.
2. IDENTIFICATION TAGS REPRESENT NOMINAL AMPACITY ONLY. ACTUAL CONDUCTOR AMPACITY SHALL BE BASED ON TABLE 310-16, INCLUDING THE PROPER DERATING FACTORS.

3 FEEDER SCHEDULE COPPER
NOT TO SCALE

GENERAL NOTES

1. REFER TO SYMBOLS AND ABBREVIATIONS LIST ON SHEET E-002.
2. REFER TO MOUNTING HEIGHTS, GENERAL, AND ELECTRICAL NOTES ON SHEET E-001.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
4. SHADING INDICATES AREA TO REMAIN THE SAME. ALL SCHEDULED WORK AREAS FEATURE NO SHADING.
5. THE FOLLOWING LINEWEIGHTS INDICATE:
   - LIGHT SOLID LINE INDICATES EXISTING EQUIPMENT AND FEEDERS
   - DARK (BOLD) DASHED LINE INDICATES EQUIPMENT AND FEEDERS DEMOLISHED OR RELOCATED UNDER THIS CONTRACT RELOCATED ITEMS ARE SHOWN WITH AN (R) NEXT TO FEEDER OR EQUIPMENT
   - DARK (BOLD) SOLID LINE INDICATES EQUIPMENT AND FEEDERS FURNISHED AND INSTALLED UNDER THIS CONTRACT

SHEET NOTES

1. MAXIMUM AVAILABLE FAULT CURRENT AT METER (CALCULATED VALUES BY CONSUMERS ENERGY ON 10-22-2014):
   * 120 MVA THREE PHASE SYMMETRICAL, WITH AN X/R RATIO OF 4.0
   * 104 MVA LINE TO LINE SYMMETRICAL, WITH AN X/R RATIO OF 4.0
   * 34 MVA LINE TO GROUND SYMMETRICAL, WITH AN X/R RATIO OF 3.7
2. FEEDER SIZE TO AVOID VOLTAGE DROP DUE TO PARALLEL RUNS.

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date
ISSUE 007 - BID UPDATE	07/24/15
ISSUE 006 - BID	06/12/15
ISSUE 005 - CD OWNER REVIEW (REVISED)	02/13/15
ISSUE 004 - CD OWNER REVIEW	11/20/14
ISSUE 003 - SD-DD OWNER REVIEW	10/15/14
ISSUE 001 - SD OWNER REVIEW	09/10/12

CONSULTANTS:

ARCHITECT/ENGINEERS:

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Drawing Title: ONE-LINE DIAGRAM - ELECTRICAL
Approved: P. GARLAND
Project Title: RENOVATE B-145
Location: BATTLE CREEK, MICHIGAN
Date: 06/12/15
Checked: PMW
Drawn: AGU
Project Number: 515-10-122
Building Number: B-145
Drawing Number: EP601
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Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

Swtichboard Designation: MSBN-145-101 (FORMERLY MDP-145)
Switchboard Location: REFER TO POWER PLANS
Fed From: REFER TO ONE-LINE DIAGRAM
Feeder Size: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN FRAME/SWITCH: 2500AF **TRIP/FUSE:** / 2500AT
MAIN TYPE: POWER BREAKER
MAIN LOCATION: TOP LEFT
BUSSING: 2500A
NEMA RATING: 1
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

NO.	Load Information: DESCRIPTION	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	MECH LOAD	PROCESS LOAD	TOTAL LOAD	INDIVIDUAL LOAD	LOAD TYPE	TOTAL KVA	Switchboard Information: DEVICE TYPE	SWITCH TYPE	FRAME/SWITCH SIZE	TRIP/FUSE SIZE
1	SPD							0	0.00 KVA	XXX	0.00	MC BRK	SINGLE	100AF	/ 100AT
2	PPN-145-101 (HA-1)	0	0	212220	0	0	0	212220	0.00 KVA	XXX	0.00	MC BRK	SINGLE	400AF	/ 400AT
3	PPN-145-102 (HA-2)	0	0	114360	0	0	0	114360	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 225AT
4	PPN-145-103 (HA-3)	0	0	222996	0	0	0	222996	0.00 KVA	XXX	0.00	MC BRK	SINGLE	400AF	/ 400AT
5	PPN-145-104 (HA-4)	0	0	272400	0	0	0	272400	0.00 KVA	XXX	0.00	MC BRK	SINGLE	400AF	/ 400AT
6	PPN-145-105 (HA-5)	0	0	146544	0	0	0	146544	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 225AT
7	PPN-145-106 (HA-6)	0	0	78420	0	0	0	78420	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 225AT
8	RPN-145-101 (LB-1)	0	1980	3300	80	0	0	5360	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 225AT
9	RPN-145-102 (LB-2)	1440	10260	840	17692	0	0	30232	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 225AT
10	RPN-145-103 (LC-1)	0	9000	1800	8404	0	0	19204	0.00 KVA	XXX	0.00	MC BRK	SINGLE	800AF	/ 600AT
11	RPN-145-104 (LD-1)	1000	9000	0	14466	0	0	24466	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 150AT
12	RPN-145-105 (LE-1)	4800	22860	0	13950	0	0	41610	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 150AT
13	PPN-145-107 (HA-7)	54000	0	0	0	0	0	54000	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 150AT
14	PPN-145-108 (HA-8)	0	0	0	10662	0	0	10662	0.00 KVA	XXX	0.00	MC BRK	SINGLE	100AF	/ 60AT
15	DPN-145-111 (HA-9)	32700	37260	3000	199343	0	0	272303	0.00 KVA	XXX	0.00	MC BRK	SINGLE	100AF	/ 60AT
16	AHU-1	0	0	0	0	0	0	0	54.00 AMPS	MECH	44.89	MC BRK	SINGLE	225AF	/ 200AT
17	AHU-2	0	0	0	0	0	0	0	118.00 AMPS	MECH	98.10	MC BRK	SINGLE	400AF	/ 400AT
18	AHU-3	0	0	0	0	0	0	0	174.00 AMPS	MECH	144.66	MC BRK	SINGLE	225AF	/ 200AT
19	LPN-145-101	22997	0	0	0	0	0	22997	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 125AT
20	LPE-145-101 & 102	18557	0	0	0	0	0	18557	0.00 KVA	XXX	0.00	MC BRK	SINGLE	60AF	/ 30AT
21	LPN-145-102	1500	10800	0	40099	0	0	52399	0.00 KVA	XXX	0.00	MC BRK	SINGLE	225AF	/ 225AT
22	ACC-1	0	0	0	0	0	0	0	118.00 AMPS	XXX	98.10	MC BRK	SINGLE	100AF	/ 100AT
23	ACC-2	0	0	0	0	0	0	0	240.00 AMPS	XXX	199.53	MC BRK	SINGLE	XXX	XXX
24	SPACE							0	0.00 XXX	XXX		MC BRK	SINGLE	XXX	XXX
25	SPACE							0	0.00 XXX	XXX		MC BRK	SINGLE	XXX	XXX
26	SPACE							0	0.00 XXX	XXX		MC BRK	SINGLE	XXX	XXX
27	SPACE							0	0.00 XXX	XXX		MC BRK	SINGLE	XXX	XXX
28	SPACE							0	0.00 XXX	XXX		MC BRK	SINGLE	XXX	XXX
29	SPACE							0	0.00 XXX	XXX		MC BRK	SINGLE	XXX	XXX
30	SPACE							0	0.00 XXX	XXX		MC BRK	SINGLE	XXX	XXX

	LIGHT	RECEPT (FIRST 10kVA)	RECEPT (>10kVA)	CONT	nonC	MECH	PROCESS	TOTAL		Totals			Minimum
Total Connected kVA	136.99	10.00	91.16	1055.88	304.70	287.66	0.00	1886.39		1886.39	2267.60		Feeder
Demand Factors (Note 7)	1.00	1.00	0.50	1.00	0.60	0.60	0.60			kVA	Amps		Amps
Total Demand kVA	136.99	10.00	45.58	1055.88	182.82	172.60	0.00	1603.87		1603.87	1927.98	Note 6 D	2245.30

Notes:
1. Motor HP and Shaft kW is converted to kVA based on Table 430.150 of the NEC. HP = Shaft kW/0.746
2. Device Size and OCP for non-motor loads based on 125% of full load per Article 210.20 of the NEC.
3. Fuses (Dual Element) feeding motors based on 150% of full load as allowed per Table 430.52 of the NEC (175% max).
4. Circuit breakers (Inverse Time) feeding motors based on 200% of full load as allowed per Table 430.52 of the NEC (250% max) and is suggested size. Recommended size of circuit breakers may vary by panelboard manufacturer.
5. Actual circuit breaker frame size may vary by panelboard manufacturer.
6. Minimum Feeder Amps calculated from 125% of continuous and largest individual load (if noncoincident) plus remaining noncoincident Connected (C) or Demand (D) load per Article 215.2 and 220.18(A) of the NEC.
7. Demand Factors are applied at all connected electrical equipment. Refer to individual panel schedules for Demand Factors applied.

PANEL DESIGNATION: PPN-145-103
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 400A BREAKER
BUSSING: 400A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
			8300			1	X			2			8300			
EXISTING WASHER/EXTRACTOR (10A)			8300		90A	3		X		4	90A		8300			EXISTING WASHER/EXTRACTOR (10B)
			8300			5			X	6			8300			
			6920			7	X			8			11072			
EXISTING LINT COLLECTOR			6920		40A	9		X		10	80A		11072			EXISTING TRIPLE PUMP PACKAGE (38A)
			6920			11			X	12			11072			
			5190			13	X			14			6920			
EXISTING TEA REUSE SYSTEM			5190		50A	15		X		16	50A		6920			EXISTING CENTRAL VACUUM
			5190			17			X	18			6920			
			9690			19	X			20			6920			
EXISTING DRYER NO. 8			9690		100A	21		X		22	30A		6920			EXISTING TEA WASTE SYSTEM
			9690			23			X	24			6920			
			1040			25	X			26			980			
EXISTING TEA CONDENSATE SYSTEM			1040		15A	27		X		28	15A		980			EXISTING WASHER UNLOAD CONVEYOR
			1040			29			X	30			980			
			9000			31	X			32						
EXISTING MAU-5			9000		40A	33		X		34	20A					SPARE
			9000			35			X	36						
						37	X			38						
SPACE					---	39		X		40	---					SPACE
						41			X	42						

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	74332	74332	74332	222996	1.00	74332	74332	74332	222996	
NON-CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0		0	0	0	0	
TOTAL LOAD (kVA)	74.33	74.33	74.33	223.00	125% OF LIGHT, CONT AND	74.33	74.33	74.33	223.00	(REPLACEMENT FOR HA-3)
TOTAL AMPACITY (AMPS)	268.2	268.2	268.2	268.2	(<=10kVA) LOAD PLUS OTHER LOAD	268.2	268.2	268.2	268.2	
MINIMUM FEEDER SIZING (AMPS)	335.3	335.3	335.3	335.3	<---- PER NEC ARTICLE 215.2 ---->	335.3	335.3	335.3	335.3	

PANEL DESIGNATION: RPN-145-101
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 225A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 208
P-N VOLTAGE: 120
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING PLUGS - 400 LB WASHER AREA		720			20A	1	X			2	20A	80				SF-1 (1/40HP-0.67A-120V-1PH)
EXISTING PLUGS - MECHANICAL ROOM		720			20A	3		X		4	20A		500			EXISTING IPL CONTROL PANEL
EXISTING LAUNDRY SYSTEM SERVICE PANEL			720		20A	5			X	6	20A			540		EXISTING PLUGS - SCALES MENTOR
EXISTING AIR DRYER NO. 1			520		20A	7	X			8	20A					SPARE
EXISTING COMPRESSOR NO. 1			520		20A	9		X		10	20A					SPARE
EXISTING AIR DRYER NO. 1			520		20A	11			X	12	20A					SPARE
EXISTING COMPRESSOR NO. 1			520		20A	13	X			14	20A					SPARE
SPARE					20A	15		X		16	20A					SPARE
SPARE					20A	17			X	18	20A					SPARE
SPARE					20A	19	X			20	20A					SPARE
SPARE					20A	21		X		22	20A					SPARE
SPARE					20A	23			X	24	20A					SPARE
SPARE					20A	25	X			26	20A					SPARE
SPARE					20A	27		X		28	20A					SPARE
SPARE					20A	29			X	30	20A					SPARE
SPACE					---	31	X			32	---					SPACE
SPACE					---	33		X		34	---					SPACE
SPACE					---	35			X	36	---					SPACE
SPACE					---	37	X			38	---					SPACE
SPACE					---	39		X		40	---					SPACE
SPACE					---	41			X	42	---					SPACE

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
180VA RECEPTACLE LOAD (VOLT-AMPS)	720	720	540	1980	1.00 (FIRST 10kVA)	720	720	540	1980	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	1040	1020	1240	3300	1.00	1040	1020	1240	3300	
NON-CONTINUOUS LOAD (VOLT-AMPS)	80	0	0	80		48	0	0	48	
TOTAL LOAD (kVA)	1.84	1.74	1.78	5.36	125% OF LIGHT, CONT AND	1.81	1.74	1.78	5.33	(REPLACEMENT FOR LB-1)
TOTAL AMPACITY (AMPS)	15.3	14.5	14.8	14.9	(<=10kVA) LOAD PLUS OTHER LOAD	15.1	14.5	14.8	14.8	
MINIMUM FEEDER SIZING (AMPS)	19.0	18.1	18.5	18.5	<---- PER NEC ARTICLE 215.2 ---->	18.7	18.1	18.5	18.5	

PANEL DESIGNATION: PPN-145-104
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 400A BREAKER
BUSSING: 400A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
			1380			1	X			2			830			
EXISTING WASHER BELT BOX			1380		15A	3		X		4	20A		830			EXISTING SHUTTLE
			1380			5			X	6			830			
			1380			7	X			8			9000			
EXISTING DRYER BELT BOX			1380		15A	9		X		10	40A		9000			EXISTING MAU-4
			1380			11			X	12			9000			
			1380			13	X			14			9000			
EXISTING STORAGE BELT BOX			1380		15A	15		X		16	40A		9000			EXISTING MAU-3
			1380			17			X	18			9000			
			9690			19	X			20			9690			
EXISTING DRYER NO. 1			9690		110A	21		X		22	110A		9690			EXISTING DRYER NO. 5
			9690			23			X	24			9690			
			9690			25	X			26			9690			
EXISTING DRYER NO. 2			9690		110A	27		X		28	110A		9690			EXISTING DRYER NO. 6
			9690			29			X	30			9690			
			9690			31	X			32			9690			
EXISTING DRYER NO. 3			9690		110A	33		X		34	110A		9690			EXISTING DRYER NO. 7
			9690			35			X	36			9690			
			9690			37	X			38						
EXISTING DRYER NO. 4			9690		110A	39		X		40	110A					SPARE
			9690			41			X	42						

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	90800	90800	90800	272400	1.00	90800	90800	90800	272400	
NON-CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0		0	0	0	0	
TOTAL LOAD (kVA)	90.80	90.80	90.80	272.40	125% OF LIGHT, CONT AND	90.80	90.80	90.80	272.40	(REPLACEMENT FOR HA-4)
TOTAL AMPACITY (AMPS)	327.6	327.6	327.6	327.6	(<=10kVA) LOAD PLUS OTHER LOAD	327.6	327.6	327.6	327.6	
MINIMUM FEEDER SIZING (AMPS)	409.5	409.5	409.5	409.6	<---- PER NEC ARTICLE 215.2 ---->	409.5	409.5	409.5	409.6	

PANEL DESIGNATION: RPN-145-102
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 225A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 208
P-N VOLTAGE: 120
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING E-TECH MCP NO. 2			320		20A	1	X			2		5764				
EXISTING PLUGS - STORAGE BELTS		720			20A	3		X		4	25A	5764				EXISTING A/C - CLEAN ROOM
EXISTING PLUGS - STORAGE BELTS		720			20A	5			X	6		5764				
EXISTING PLUGS - PRE-FEEDERS		720			20A	7	X			8	20A			720		EXISTING PLUGS - CLEAN ROOM
2 EXISTING HEATERS			520		20A	9		X		10	20A			720		EXISTING PLUGS - CLEAN ROOM
BATHROOM SENSORS (109,110)				**200**	20A	11			X	12	20A			720		EXISTING PLUGS - CLEAN ROOM
BATHROOM SENSORS (114,115)				**200**	20A	13	X			14	20A			720		EXISTING PLUGS - CLEAN ROOM
RECEPT (109,110,116A)		**720**			20A	15		X		16	20A			720		EXISTING PLUGS - CLEAN ROOM
RECEPT (114,115,116A)		**900**			20A	17			X	18	20A			720		EXISTING PLUGS - CLEAN ROOM
SPARE					20A	19	X			20	20A			720		EXISTING PLUGS - RESTROOMS
SPARE					20A	21		X		22	20A				720	EXISTING LIGHTS - CLEAN ROOM
SPARE					20A	23			X	24	20A				720	EXISTING LIGHTS - CLEAN ROOM
SPARE					20A	25	X			26	20A			720		EXISTING PLUGS - CHEMICAL/SOAP AREA
SPARE					20A	27		X		28	20A			720		EXIST. PLUGS - DRYER/UNLOAD CONVEYOR
SPARE					20A	29			X	30	20A					SPARE
SPACE					---	31	X			32	---					SPACE
SPACE					---	33		X		34	---					SPACE
SPACE					---	35			X	36	---					SPACE
SPACE					---	37	X			38	---					SPACE
SPACE					---	39		X		40	---					SPACE
SPACE					---	41			X	42	---					SPACE

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	720	720	1440	1.00	0	720	720	1440	
180VA RECEPTACLE LOAD (VOLT-AMPS)	3600	3600	3060	10260	1.00 (FIRST 10kVA)	3509	3509	2982	10000	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL
	AMOUNT OVER 10kVA			260	0.50 (> 10kVA)	46	46	39	130	
CONTINUOUS LOAD (VOLT-AMPS)	320	520	0	840	1.00	320	520	0	840	
NON-CONTINUOUS LOAD (VOLT-AMPS)	5964	5764	5964	17692		3578	3458	3578	10615	
TOTAL LOAD (kVA)	9.88	10.60	9.74	30.23	125% OF LIGHT, CONT AND	7.45	8.25	7.32	23.03	(REPLACEMENT FOR LB-2)
TOTAL AMPACITY (AMPS)	82.3	88.3	81.1	83.9	(<=10kVA) LOAD PLUS OTHER LOAD	62.1	68.7	60.9	63.9	
MINIMUM FEEDER SIZING (AMPS)	90.5	98.4	89.0	92.6	<---- PER NEC ARTICLE 215.2 ---->	70.0	78.6	68.7	72.4	

PANEL DESIGNATION: PPN-145-101
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 400A BREAKER
BUSSING: 400A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
			13840			1	X			2			13840			
EXISTING CBW NO. 2			13840		80A	3		X		4	80A		13840			EXISTING CBW NO. 1
			13840			5			X	6			13840			
			1110			7	X			8			4150			
EXISTING ELEVATOR NO. 2			1110		15A	9		X		10	25A		4150			EXISTING E-TECH SOIL CONVERSION PANEL
			1110			11			X	12			4150			
			1110			13	X			14			2080			
EXISTING STORAGE NO. 2			1110		15A	15		X		16	15A		2080			EXISTING CART DUMP NO. 1
			1110			17			X	18			2080			
			700			19	X			20			2080			
EXISTING ELEVATOR NO. 1			700		15A	21		X		22	15A		2080			EXISTING CART DUMP NO. 2
			700			23			X	24			2080			
			830			25	X			26			2200			
EXISTING STORAGE NO. 1			830		15A	27		X		28	15A		2200			EXISTING MAU-1
			830			29			X	30			2200			
			14400			31	X			32			14400			
EXISTING PRESS NO. 2			14400		150A	33		X		34	150A		14400			EXISTING PRESS NO. 1
			14400			35			X	36			14400			
						37	X			38						
SPACE					XXX	39		X		40	XXX					SPACE
						41			X	42						

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	70740	70740	70740	212220	1.00	70740	70740	70740	212220	
NON-CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0		0	0	0	0	
TOTAL LOAD (kVA)	70.74	70.74	70.74	212.22	125% OF LIGHT, CONT AND	70.74	70.74	70.74	212.22	(REPLACEMENT FOR HA-1)
TOTAL AMPACITY (AMPS)	255.3	255.3	255.3	255.3	(<=10kVA) LOAD PLUS OTHER LOAD	255.3	255.3	255.3	255.3	
MINIMUM FEEDER SIZING (AMPS)	319.1	319.1	319.1	319.1	<---- PER NEC ARTICLE 215.2 ---->	319.1	319.1	319.1	319.1	

PANEL DESIGNATION: PPN-145-105
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 225A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
			8300			1	X			2			8300			
EXISTING DRYER ULOAD SYSTEM			8300		15A	3		X		4	60A		8300			EXISTING CHICAGO IRON SYSTEM NO. 1
			8300			5			X	6			8300			
			3320			7	X			8			8300			
EXISTING PRE-FEEDERS TO IRONERS			3320		25A	9		X		10	60A		8300			EXISTING CHICAGO IRON SYSTEM NO. 2
			3320			11			X	12			8300			
			2768			13	X			14			2768			
EXISTING DRAW BRIDGE CONVEYORS			2768		20A	15		X		16	25A		2768			EXISTING SMALL PC FOLDERS
			2768			17			X	18			2768			
			2768			19	X			20			1384			
EXISTING FOLDING CONVEYORS			2768		15A	21		X		22	15A		1384			EXISTING BLANKET FOLDER/IRON
			2768			23			X	24			1384			
			9000			25	X			26			1940			
EXISTING MAU-5			9000		40A	27		X		28	25A		1940			EXISTING WATER HEATER
			9000			29			X	30			1940			
						31	X			32						
SPARE					20A	33		X		34	20A					SPARE
						35			X	36						
						37	X			38						
SPACE					---	39		X		40	---					SPACE
						41			X	42						

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	48848	48848	48848	146544	1.00	48848	48848	48848	146544	
NON-CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0		0	0	0	0	
TOTAL LOAD (kVA)	48.85	48.85	48.85	146.54	125% OF LIGHT, CONT AND	48.85	48.85	48.85	146.54	(REPLACEMENT FOR HA-5)
TOTAL AMPACITY (AMPS)	176.3	176.3	176.3	176.3	(<=10kVA) LOAD PLUS OTHER LOAD	176.3	176.3	176.3	176.3	
MINIMUM FEEDER SIZING (AMPS)	220.3	220.3	220.3	220.3	<---- PER NEC ARTICLE 215.2 ---->	220.3	220.3	220.3	220.3	

PANEL DESIGNATION: RPN-145-103
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 225A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 208
P-N VOLTAGE: 120
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING RECEPTACLE (UNDER PANEL)		360			20A	1	X			2	20A	696				EXISTING EXHAUST FAN (SOIL)
EXISTING SOIL BAY HEATER			1800		20A	3		X		4	20A			1080		EXISTING RECEPTACLES - IPL#7 (111)
EXISTING RECEPTACLES - IPL#2 (111)		1080			20A	5			X	6	20A			1080		EXISTING RECEPTACLES - IPL#8 (111)
SPARE					20A	7	X			8	20A	1800				REG ON MCP1
EXISTING RECEPTACLES - IPL#3 (111)		1080			30A	9		X		10	20A	1456				EXISTING ROOF TOP AC#13098
EXISTING RECEPTACLES (111E)		1080			20A	11			X	12		1456				
EXISTING ALARM SYSTEM (111E)		1080			20A	13	X			14	20A					SPARE
EXISTING RECEPTACLES - IPL#4 (111)		1080			20A	15		X		16	20A	1800				EXIST. RECEPTACLES - ENERGY CONTROL (111E
EXISTING RECEPTACLES - IPL#5 (111)		1080			20A	17			X	18	20A					SPARE
SPARE					20A	19	X			20	20A					SPARE
EXISTING FIRE ALARM CIRCUIT				500	20A	21		X		22	20A					SPARE
SPARE					20A	23			X	24	20A					SPARE
						25	X			26	20A					SPARE
SPARE					20A	27		X		28	20A					SPARE
EXISTING EF BY 111E				696	20A	29			X	30	20A					SPARE
SPARE					20A	31	X			32	20A					SPARE
SPARE					20A	33		X		34	20A					SPARE
SPARE					20A	35			X	36	20A					SPARE
SPARE					20A	37	X			38	20A					SPARE
SPARE					50A	39		X		40	50A					SPARE
						41			X	42						

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
180VA RECEPTACLE LOAD (VOLT-AMPS)	1440	3240	4320	9000	1.00 (FIRST 10kVA)	1440	3240	4320	9000	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	0	1800	0	1800	1.00	0	1800	0	1800	
NON-CONTINUOUS LOAD (VOLT-AMPS)	2496	3756	2152	8404		1498	2254	1291	5042	
TOTAL LOAD (kVA)	3.94	8.80	6.47	19.20	125% OF LIGHT, CONT AND	2.94	7.29	5.61	15.84	(REPLACEMENT FOR LC-1)
TOTAL AMPACITY (AMPS)	32.8	73.2	53.9	53.3	(<=10kVA) LOAD PLUS OTHER LOAD	24.5	60.7	46.7	44.0	
MINIMUM FEEDER SIZING (AMPS)	35.8	83.7	62.9	60.8	<---- PER NEC ARTICLE 215.2 ---->	27.5	71.2	55.7	51.5	

PANEL DESIGNATION: PPN-145-102
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 225A BREAKER
BUSSING: 250A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
			13850			1	X			2			13850			
EXISTING COMPRESSOR NO. 1			13850		100A	3		X		4	100A		13850			EXISTING COMPRESSOR NO. 2
			13850			5			X	6			13850			
			1750			7	X			8			1750			
EXISTING BOILER NO. 1			1750		15A	9		X		10	15A		1750			EXISTING BOILER NO. 2
			1750			11			X	12			1750			
			6920			13	X			14						
EXISTING CARTWASH			6920		50A	15		X		16	20A					SPARE
			6920			17			X	18						
						19	X			20						
SPARE					20A	21		X		22	20A					SPARE
						23			X	24						
						25	X			26						
SPACE					---	27		X		28	---					SPACE
						29			X	30						
						31	X			32						
SPACE					---	33		X		34	---					SPACE
						35			X	36						
						37	X			38						
SPACE					---	39		X		40	---					SPACE
						41			X	42						

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	38120	38120	38120	114360	1.00	38120	38120	38120	114360	
NON-CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0		0	0	0	0	
TOTAL LOAD (kVA)	38.12	38.12	38.12	114.36	125% OF LIGHT, CONT AND	38.12	38.12	38.12	114.36	(REPLACEMENT FOR HA-2)
TOTAL AMPACITY (AMPS)	137.5	137.5	137.5	137.6	(<=10kVA) LOAD PLUS OTHER LOAD	137.5	137.5	137.5	137.6	
MINIMUM FEEDER SIZING (AMPS)	171.9	171.9	171.9	171.9	<---- PER NEC ARTICLE 215.2 ---->	171.9	171.9	171.9	171.9	

PANEL DESIGNATION: PPN-145-106
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 225A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
			3600			1	X			2			3600			
EXISTING STEAM TUNNEL (15A)			3600		25A	3		X		4	15A		3600			EXISTING STEAM TUNNEL (15B)
			3600			5			X	6			3600			
			1500			7	X			8			1500			
EXISTING 110 LB DRYER (14A)			1500		15A	9		X		10	15A		1500			EXISTING 110 LB DRYER (14B)
			1500			11			X	12			1500			
			1500			13	X			14			1500			
EXISTING 110 LB DRYER (14C)			1500		15A	15		X		16	15A		1500			EXISTING 110 LB DRYER (14D)
			1500			17			X	18			1500			
			980			19	X			20			980			
EXISTING WASHER (13A)			980		15A	21		X		22	15A		980			EXISTING WASHER (13B)
			980			23			X	24			980			
			980			25	X			26			10000			
EXISTING WASHER (13C)			980		15A	27		X		28	50A		10000			EXISTING OUTSIDE A/C UNIT
			980			29			X	30			10000			
						31	X			32						
SPARE					20A	33		X		34	20A					SPARE
						35			X	36						
						37	X			38						
SPACE					---	39		X		40	---					SPACE
						41			X	42						

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	26140	26140	26140	78420	1.00	26140	26140	26140	78420	
NON-CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0		0	0	0	0	
TOTAL LOAD (kVA)	26.14	26.14	26.14	78.42	125% OF LIGHT, CONT AND	26.14	26.14	26.14	78.42	(REPLACEMENT FOR HA-6)
TOTAL AMPACITY (AMPS)	94.3	94.3	94.3	94.3	(<=10kVA) LOAD PLUS OTHER LOAD	94.3	94.3	94.3	94.3	
MINIMUM FEEDER SIZING (AMPS)	117.9	117.9	117.9	117.9	<---- PER NEC ARTICLE 215.2 ---->	117.9	117.9	117.9	117.9	

PANEL DESIGNATION: RPN-145-104
PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 100A BREAKER
BUSSING: 125A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 1
IP RATING:
P-P VOLTAGE: 208
P-N VOLTAGE: 120
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING LIGHTS AND FANS (103-04)	1000			696	20A	1	X			2	20A			1080		EXIST. RECEPTACLES & LOUVRES (106 & ROOF
EXISTING RECEPTACLES AND GFIs (106,109-10)		1080			20A	3		X		4	20A			1080		EXISTING RECEPTACLES (112)
EXIST. RECEPT. WEST 106 & ROOF		1080			20A	5			X	6	20A	1800				EXIST. RECEPT. - COFFEE MACHINE (VENDING
EXISTING RECEPTACLES (VENDING)				1800	20A	7	X			8	20A	450				EXISTING RECEPTACLE - GAS METER (EXTERIOR
EXISTING RECEPTACLES (VENDING)				2160	30A	9		X		10	20A					SPARE
EXISTING RECEPTACLES (VENDING)				1800	20A	11			X	12	30A			2160		EXISTING RECEPTACLES AT SINK (VENDING)
SPACE					20A	13	X			14	20A	1800				EXISTING RECEPTACLES (VENDING)
EXIST. RECEPT. - COFFEE MACHINE (VENDING)				2160	30A	15		X		16	20A			180		**COUNTER RECEPT (112)**
EXISTING RECEPT. - ICE MACHINE (VENDING)				1800	20A	17			X	18	20A			180		**COUNTER RECEPT (112)**
EXISTING RECEPTACLES (112)		1080			20A	19	X			20	20A					SPARE
EXISTING RECEPTACLES (BY PANEL)		1080			20A	21		X		22	20A					SPARE
SPACE					20A	23			X	24	20A					SPACE
SPACE					20A	25	X			26	20A					SPACE
SPACE					20A	27		X		28	20A					SPACE
SPACE					20A	29			X	30	20A					SPACE
SPACE					20A	31	X			32	20A					SPACE
SPACE					20A	33		X		34	20A					SPACE
SPACE					20A	35			X	36	20A					SPACE
SPACE					20A	37	X			38	20A					SPACE
SPACE					20A	39		X		40	20A					SPACE
SPACE					20A	41			X	42	20A					SPACE

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	1000	0	0	1000	1.00	1000	0	0	1000	
180VA RECEPTACLE LOAD (VOLT-AMPS)	2160	3420	3420	9000	1.00 (FIRST 10kVA)	2160	3420	3420	9000	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
NON-CONTINUOUS LOAD (VOLT-AMPS)	4746	4320	5400	14466		2848	2592	3240	8680	
TOTAL LOAD (kVA)	7.91	7.74	8.82	24.47	125% OF LIGHT, CONT AND	6.01	6.01	6.66	18.68	(FORMERLY LD-1)
TOTAL AMPACITY (AMPS)	65.8	64.5	73.4	67.9	(<=10kVA) LOAD PLUS OTHER LOAD	50.0	50.1	55.5	51.8	
MINIMUM FEEDER SIZING (AMPS)	72.4	71.6	80.6	74.9	<---- PER NEC ARTICLE 215.2 ---->	56.6	57.2	62.6	58.8	

3100\03150-E0.000\CALCULATIONS\ELECTRICAL\Panel Schedules - Excel\FORMERLY LD-1 (RPN-145-104).xlsm Pag

GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS FOR COORDINATION OF ELECTRICAL DEVICES.
3. REFER TO CODE COMPLIANCE PLANS FOR FIRE BARRIERS, EGRESS PATHS AND TRAVEL DISTANCES ON SHEET GI002 THOUGH GI006.
4. REFER TO PHASING PLANS AND CONSTRUCTION ACCESS PLAN FOR COORDINATION OF ELECTRICAL DEVICES, EQUIPMENT, TEMPORARY PARTITION LOCATIONS, DEMOLITION AND INSTALLATION TIMING OF WORK ON SHEET NOS. GC100 AND IN SPECIFICATIONS.
5. REFER TO ARCHITECTURAL SHEETS FOR RATED WALL LOCATIONS, FLOOR SAW CUTTING AND REPAIR INFORMATION.
6. REFER TO MECHANICAL/ELECTRICAL SCHEDULES AND NOTES ON SHEETS ME601 FOR ADDITIONAL INFORMATION.
7. THE FOLLOWING SHADING INDICATES:
   SHADING INDICATES AREA OF EXISTING DEVICES, EQUIPMENT, AND FEEDERS TO REMAIN UNLESS NOTED OTHERWISE. AREAS FEATURING NO SHADING INDICATE WORK TO BE DEMOLISHED, FURNISHED AND INSTALLED UNDER THIS CONTRACT UNLESS NOTED OTHERWISE. ALL CIRCUITS/HOME RUNS OVERLAPPING WORK SCOPE AREA IS INCLUDED UNDER THIS CONTRACT.
8. THE FOLLOWING LINEWEIGHTS INDICATE:
   LIGHT SOLID LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO REMAIN AND ARE SHOWN FOR REFERENCE ONLY. EXISTING LOCATIONS AND LAYOUT MAY DIFFER FROM LAYOUT SHOWN. FIELD VERIFY EXACT LOCATIONS AND LAYOUT.
   DARK (BOLD) DASHED LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE REMOVED OR RELOCATED UNDER THIS CONTRACT. RELOCATED ITEMS WILL BE DESIGNATED WITH AN "(R)" NEXT TO THE EQUIPMENT OR FEEDER.
   DARK (BOLD) SOLID LINES INDICATE EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT.

SHEET NOTES

1. PROVIDE BRACING AND INTERRUPTING RATINGS FOR ALL EQUIPMENT BASED ON VALUES SHOWN ON 00-EP-700 THROUGH 00-EP-711 AND CORRESPONDING NOTES.
2. MOTOR HP AND SHAFT KW IS CONVERTED TO KVA BASED ON TABLE 430.150 OF THE NEC. HP = SHAFT KW/0.746
3. DEVICE SIZE AND OVER-CURRENT PROTECTION LOADS BASED ON 125% OF FULL LOAD PER ARTICLE 210.20 OF THE NEC.
4. FUSES (DUAL ELEMENT) FEEDING MOTORS BASED ON 150% OF FULL LOAD AS ALLOWED PER TABLE 430.52 OF THE NEC (175% MAX).
5. CIRCUIT BREAKERS (INVERSE TIM E) FEEDING MOTORS BASED ON 200% OF FULL LOAD AS ALLOWED PER TABLE 430.52 OF THE NEC (2505 MAX) AS IS SUGGESTED SIZE. RECOMMENDED SIZE OF CIRCUIT BREAKERS MAY VARY BY PANELBOARD MANUFACTURER.
6. MINIMUM FEEDER AMPS CALCULATED FROM 125% OF CONTINUOUS AND LARGEST INDIVIDUAL LOAD (IF NON-CONTINUOUS) PLUS REMAINING NON-CONTINUOUS CONNECTED (C) OR DEMAND (D) LOAD PER ARTICLE 215.2 AND 220.4(A) OF THE NEC.
7. ACTUAL CIRCUIT BREAKER FRAME SIZE MAY VARY BY PANELBOARD MANUFACTURER.
8. ALL MAIN BREAKERS IN POWER DISTRIBUTION PANELS (PDP) TO BE 100% RATED.
9. ALL SHUNT TRIP CIRCUIT BREAKERS TO HAVE BELL CIRCUIT WHERE REQUIRED.
10. ELECTRICAL DEVICE/EQUIPMENT QUANTITIES SHOWN IN PANEL SCHEDULES ARE NOT TO BE USED FOR BIDDING PURPOSES. REFER TO ELECTRICAL PLANS FOR DEVICE/EQUIPMENT LOCATIONS AND QUANTITIES.

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions	Date
ISSUE 007 - BID UPDATE	07/24/15
ISSUE 006 - BID	06/12/15
ISSUE 005 - CD OWNER REVIEW (REVISED)	02/13/15
ISSUE 004 - CD OWNER REVIEW	11/20/14
ISSUE 003 - SD-DD OWNER REVIEW	10/15/14

CONSULTANTS:

ARCHITECT/ENGINEERS:

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Drawing Title: PANEL SCHEDULES
Approved: P. GARLAND
Project Title: RENOVATE B-145
Location: BATTLE CREEK, MICHIGAN
Date: 06/12/15
Checked: PMW
Drawn: PMW
Project Number: 515-10-122
Building Number: B-145
Drawing Number: EP602
Dwg. 64 of 78

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

PANEL DESIGNATION: RPN-145-105

PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 125A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 208
P-N VOLTAGE: 120
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING RECEPTACLES (112)		1080			20A	1	X			2	20A			180		EXISTING RECEPTACLES (ABOVE PANEL)
EXISTING RECEPTACLES (113)		1080			20A	3		X		4	20A	900				EXISTING RECEPTACLE - DWC (VENDING)
EXISTING RECEPTACLES (LOBBY)		1080			20A	5			X	6	20A	900				EXISTING WATER & GAS METERS (FRONT LAWN
EXISTING RECEPTACLES (UTILITY)		1080			20A	7	X			8	20A			1080		EXISTING RECEPTACLES (113)
EXISTING RECEPTACLES (LOBBY)		1080			20A	9		X		10	20A			1080		EXISTING RECEPTACLES (104 AND 112)
EXISTING RECEPTACLES (LADIES ROOM)		1080			20A	11			X	12	20A			1080		EXISTING RECEPTACLES (IPL)
EXISTING RECEPTACLES (MEN'S ROOM)		1080			20A	13	X			14	20A			1080		EXISTING RECEPTACLES (IPL)
EXISTING RECEPTACLES (MAINT. OFFICE)		1080			20A	15		X		16	20A			1080		EXISTING RECEPTACLES (IPL)
EXISTING RECEPTACLES (HALL AND BATH)		1080			20A	17			X	18	20A			1080		EXISTING RECEPTACLES (IPL)
EXISTING EMERGENCY LIGHTS	1200				30A	19	X			20	20A			1080		EXISTING RECEPTACLES (IPL)
SPARE					20A	21		X		22	20A				1200	EXISTING LIGHTSS (VENDING)
EXISTING RECEPTACLES (HALL)		1080			20A	23			X	24	20A	1800				EXISTING RECEPTACLES (VENDING)
EXISTING RECEPTACLES (103)		1080			20A	25	X			26	30A					SPARE
EXISTING RECEPTACLES (103)		1080			20A	27		X		28	30A					SPARE
EXISTING RECEPTACLES (104)		1080			20A	29			X	30	20A	1800				EXISTING RECEPTACLES (VENDING)
EXISTING RECEPTACLES (104)		1080			20A	31	X			32	20A	1800				EXISTING RECEPTACLES (VENDING)
EXISTING LIGHTS (104)	1200				20A	33		X		34	20A	1800				EXISTING RECEPTACLES (VENDING)
EXISTING LIGHTS (103)	1200				20A	35			X	36	20A	1800				EXISTING WATER & ICE MACHINE (VENDING)
SPACE					---	37	X			38	---					SPACE
EXISTING UNKNOWN LOAD				1800	20A	39		X		40	15A	1350				EXISTING POWER RECEPTACLE (IPL)
SPACE					---	41			X	42	---					SPACE

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	1200	2400	1200	4800	1.00	1200	2400	1200	4800	
180VA RECEPTACLE LOAD (VOLT-AMPS)	8820	6480	7560	22860	1.00 (FIRST 10kVA)	3858	2835	3307	10000	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			12860	0.50 (> 10kVA)	2481	1823	2126	6430	
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
NON-CONTINUOUS LOAD (VOLT-AMPS)	1800	5850	6300	13950		1080	3510	3780	8370	**(REPLACEMENT FOR LE1)**
TOTAL LOAD (kVA)	11.82	14.73	15.06	41.61	125% OF LIGHT, CONT AND	8.62	10.57	10.41	29.60	
TOTAL AMPACITY (AMPS)	98.4	122.7	125.4	115.5	(<=10kVA) LOAD PLUS OTHER LOAD	71.8	88.0	86.7	82.2	
MINIMUM FEEDER SIZING (AMPS)	119.3	141.1	143.6	134.7	<---- PER NEC ARTICLE 215.2 ---->	82.3	98.9	96.1	92.4	

PANEL DESIGNATION: PPN-145-107

PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 225A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING LIGHTS	3600				20A	1	X			2	20A				3600	EXISTING LIGHTS
EXISTING LIGHTS	3600				20A	3		X		4	20A				3600	EXISTING LIGHTS
EXISTING LIGHTS	3600				20A	5			X	6	20A				3600	EXISTING LIGHTS
EXISTING LIGHTS	3600				20A	7	X			8	20A				3600	EXISTING LIGHTS
EXISTING LIGHTS	3600				20A	9		X		10	20A				3600	EXISTING LIGHTS
EXISTING LIGHTS	3600				20A	11			X	12	20A				3600	EXISTING LIGHTS
EXISTING LIGHTS	3600				20A	13	X			14	20A					SPARE
EXISTING LIGHTS	3600				20A	15		X		16						**SPARE**
EXISTING LIGHTS	3600				20A	17			X	18	**150A**					
SPARE					20A	19	X			20						
						21		X		22	20A					SPACE
						23			X	24	20A					SPACE
SPACE					20A	25	X			26	20A					SPACE
SPACE					20A	27		X		28	20A					SPACE
					20A	29			X	30	20A					
					20A	31	X			32	20A					
					20A	33		X		34	20A					
					20A	35			X	36	20A					
					20A	37	X			38	20A					
					20A	39		X		40	20A					
					20A	41			X	42	20A					

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	18000	18000	18000	54000	1.00	18000	18000	18000	54000	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
NON-CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0		0	0	0	0	**(REPLACEMENT FOR HA-7)**
TOTAL LOAD (kVA)	18.00	18.00	18.00	54.00	125% OF LIGHT, CONT AND	18.00	18.00	18.00	54.00	
TOTAL AMPACITY (AMPS)	65.0	65.0	65.0	65.0	(<=10kVA) LOAD PLUS OTHER LOAD	65.0	65.0	65.0	65.0	
MINIMUM FEEDER SIZING (AMPS)	81.2	81.2	81.2	81.2	<---- PER NEC ARTICLE 215.2 ---->	81.2	81.2	81.2	81.2	

PANEL DESIGNATION: PPN-145-108

PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 225A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 12
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING ROLL-UP DOOR - LOADING DOCK 1.5HP-3.0A-480V-3PH				834	20A	1	X			2	20A					SPARE
				834		3		X		4						
				834		5			X	6						
EXISTING EF#1 - MECHANICAL ROOM 2.0HP-3.4A-480V-3PH				943	20A	7	X			8	20A					SPARE
				943		9		X		10						
				943		11			X	12						
EXISTING EF#2 - ABOVE TUNNEL 2.0HP-3.4A-480V-3PH				943	20A	13	X			14	20A					SPARE
				943		15		X		16						
				943		17			X	18						
SPARE					20A	19	X			20	20A					SPARE
						21		X		22						
						23			X	24						
SPARE					20A	25	X			26	20A	834				EXISTING ROLL-UP DOOR - LOADING DOCK 1.5HP-3.0A-480V-3PH
						27		X		28		834				
						29			X	30		834				
SPARE					20A	31	X			32	20A					SPARE
						33		X		34	20A					SPARE
						35			X	36	20A					SPARE
SPACE					---	37	X			38	---					SPACE
						39		X		40						
						41			X	42						

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
NON-CONTINUOUS LOAD (VOLT-AMPS)	3554	3554	3554	10662		2132	2132	2132	6397	**(REPLACEMENT FOR HA-8)**
TOTAL LOAD (kVA)	3.55	3.55	3.55	10.66	125% OF LIGHT, CONT AND	2.13	2.13	2.13	6.40	
TOTAL AMPACITY (AMPS)	12.8	12.8	12.8	12.8	(<=10kVA) LOAD PLUS OTHER LOAD	7.7	7.7	7.7	7.7	
MINIMUM FEEDER SIZING (AMPS)	12.8	12.8	12.8	12.8	<---- PER NEC ARTICLE 215.2 ---->	7.7	7.7	7.7	7.7	

PANEL DESIGNATION: LPN-145-101

PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 125A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 1
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
21-LH1 ()	3150				20A	1	X			2	20A				2955	5-LJ1 AND 16-LH2 ()
19-LH1 ()	2850				20A	3		X		4	20A				3150	21-LH2 ()
17-LH1 ()	2550				20A	5			X	6	20A				2550	17-LH2 ()
20-LH1 ()	3000				20A	7	X			8	20A				2034	10-LH2, 2-LJ1AND 13-LB2 ()
11-LG1, 6-LJ8, AND 1-LA2 ()	758				20A	9		X		10	20A					SPARE
SPARE					20A	11			X	12	20A					SPARE
SPARE					20A	13	X			14	20A					SPARE
SPARE					20A	15		X		16	20A					SPARE
SPARE					20A	17			X	18	20A					SPARE
SPARE					20A	19	X			20	20A					SPARE
SPARE					20A	21		X		22	20A					SPARE
SPARE					20A	23			X	24	20A					SPARE
SPARE					20A	25	X			26	20A					SPARE
SPARE					20A	27		X		28	20A					SPARE
SPARE					20A	29			X	30	20A					SPARE
SPACE					---	31	X			32	---					SPACE
SPACE					---	33		X		34	---					SPACE
SPACE					---	35			X	36	---					SPACE
SPACE					---	37	X			38	---					SPACE
SPACE					---	39		X		40	---					SPACE
SPACE					---	41			X	42	---					SPACE

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	11139	6758	5100	22997	1.00	11139	6758	5100	22997	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
NON-CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0		0	0	0	0	**"LPN-145-101"**
TOTAL LOAD (kVA)	11.14	6.76	5.10	23.00	125% OF LIGHT, CONT AND	11.14	6.76	5.10	23.00	
TOTAL AMPACITY (AMPS)	40.2	24.4	18.4	27.7	(<=10kVA) LOAD PLUS OTHER LOAD	40.2	24.4	18.4	27.7	
MINIMUM FEEDER SIZING (AMPS)	50.2	30.5	23.0	34.6	<---- PER NEC ARTICLE 215.2 ---->	50.2	30.5	23.0	34.6	

PANEL DESIGNATION: LPN-145-102

PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 225A BREAKER
BUSSING: 225A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 1
IP RATING:
P-P VOLTAGE: 480
P-N VOLTAGE: 277
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING RECEPTACLES - SW CORNER		1080			20A	1	X			2	20A			1080		EXISTING RECEPTACLES - SW WALL THIRD BAY
EXISTING RECEPTACLES - SW WALL THIRD BAY		1080			20A	3		X		4	20A	1165				EXISTING BAY DOOR - RECEIVING AREA
EXISTING RECEPTACLES - S WALL THIRD BAY		1080			20A	5			X	6	20A	1800				EXISTING SE MOVEABLE SHELVING
EXISTING RECEPTACLES - W WALL SECOND AISLE		1080			20A	7	X			8	20A			1080		EXISTING RECEPTACLES - NW OFFICE AREA
EXISTING RECEPTACLES - W WALL SECOND BAY		1080			20A	9		X		10	20A			1080		EXISTING RECEPTACLES - N OFFICE AREA
EXISTING SE MOVEABLE SHELVING				1800	20A	11			X	12	20A			1080		EXISTING RECEPTACLES - NE OFFICE AREA
EXISTING RECEPTACLES - TOOL ROOM W WALL		1080			20A	13	X			14		5321				EXISTING OFFICE HEATER
EXISTING SAFETY AND SECURITY (480V-1PH)				1800	20A	15		X		16	30A	5321				
EXISTING LIGHTS - WAREHOUSE	1500				20A	17			X	18		5321				
EXISTING SAFETY AND SECURITY (480V-1PH)				1800	20A	19	X			20		4657				EXISTING ROOF AC DRUG ROOM
EXISTING AIR HANDLE - DRUG ROOM				1800	20A	21		X		22	30A	4657				
SPACE					---	23			X	24		4657				
SPACE					---	25	X			26	---					SPACE
SPACE					---	27		X		28	---					SPACE

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	0	0	1500	1500	1.00	0	0	1500	1500	
180VA RECEPTACLE LOAD (VOLT-AMPS)	5400	3240	2160	10800	1.00 (FIRST 10kVA)	5000	3000	2000	10000	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL
	AMOUNT OVER 10kVA			800	0.50 (> 10kVA)	200	120	80	400	
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
NON-CONTINUOUS LOAD (VOLT-AMPS)	11778	14743	13578	40099		7067	8846	8147	24059	**(REPLACEMENT FOR PANEL WLP)**
TOTAL LOAD (kVA)	17.18	17.98	17.24	52.40	125% OF LIGHT, CONT AND	12.27	11.97	11.73	35.96	
TOTAL AMPACITY (AMPS)	62.0	64.9	62.2	63.0	(<=10kVA) LOAD PLUS OTHER LOAD	44.3	43.2	42.3	43.3	
MINIMUM FEEDER SIZING (AMPS)	66.9	67.8	65.5	66.7	<---- PER NEC ARTICLE 215.2 ---->	48.8	45.9	45.5	46.7	

Panel Designation: LPE-145-101

Panel Location: REFER TO POWER PLANS
Fed From: REFER TO ONE-LINE
Feeder Size: REFER TO ONE-LINE
Main: 60A BREAKER
Bussing: 125A
Neutral: 100%
Ground Bus: STANDARD
Mounting: COLUMN
P-P Voltage: 480
P-N Voltage: 277
Phase: 3
Wire: 4
Min SC Interrupting Rating: REFER

Remarks	Light Load	Recept Load	Cont Load	nonC Load	OC Prot	CKT	Ø A	Ø B	Ø C
17-LH1E, 6-LH3E	2466				20	1	X		
1-LX1, 16-LX2, AND 1-LZ2 ()	60				20	2		X	
2-LJ1E , 17-LH2E AND 1-LB2	2796				20	3			X
9-LW1 ()	225				20	4	X		
EXIST. EXITS FROM HA-8 (CKT. 36)	2400				20	5		X	
EXIST. EXITS FROM HA-8 (CKT. 32)	1200				20	6			X
EXIST. EXITS FROM HA-8 (CKT. 34)	1200				20	7	X		
LPE-145-102	3900				20	8		X	
	2800					9			X
	1510					10	X		
Spare					20	11		X	
Spare					20	12			X
Spare					20	13	X		
Spare					20	14		X	
Spare					20	15			X
Spare					20	16	X		
Spare					20	17		X	
Spare					20	18			X
Spare					20	19	X		
Spare					20	20		X	
Spare					20	21			X
Spare					20	22	X		
Spare					20	23		X	
Spare					20	24			X
Spare					20	25	X		
Spare					20	26		X	
Spare					20	27			X
Spare					20	28	X		
Spare					20	29		X	
Spare					20	30			X
Space					--	31	X		
Space					--	32		X	
Space					--	33			X

	Lighting or Continous	180VA Receptacle	Continuous Load (Volt-Amps)	Non-Continuous Load (Volt-Amps)
	Connected Load			
ØA	5401	0	0	0
ØB	6360	0	0	0
ØC	6796	0	0	0
Tot	18557	0	0	0
Total kVA	18.56	Amps	22.32	
Min Feeder Amps			27.90	
	Demand Load			
DF	1.00	Note 1		
ØA	5401	0	0	0
ØB	6360	0	0	0
ØC	6796	0	0	0
Tot	18557	0	0	0
Total kVA	18.56	Amps	22.32	
Min Feeder Amps			27.90	

Note 1:
Receptacle Demand Factor per Article 220.44 of the National Electrical Code.
Note 2:
Minimum Feeder Size Amps; 125% of Light/Cont and Recept (<10kVA) load plus other load per Article 215.2 of the NEC.

PANEL DESIGNATION: LPE-145-102

PANEL LOCATION: REFER TO POWER PLANS
FED FROM: REFER TO ONE-LINE DIAGRAM
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM
GROUND BUS: STANDARD
MAIN: 125A BREAKER
BUSSING: 125A
MAIN LOCATION: TOP
MOUNTING: SURFACE
NEMA RATING: 1
IP RATING:
P-P VOLTAGE: 208
P-N VOLTAGE: 120
PHASE: 3
WIRE: 4
NEUTRAL: 100%
MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXIST. NL FROM EXIST PANEL 2 (CKT.8)	1500				20A	1	X			2	20A				1200	EXIST. EMERG. FROM PANEL LC-1 (CKT. 19)
EXIST EXITS FROM EXIST PANEL C (CKT. 17)	1000				20A	3		X		4	20A				1200	EXIST. EMERG. FROM PANEL LC-1 (CKT. 14)
EXIT. EXITS FROM PANEL LB-1 (CKT. 4)	310				20A	5			X	6	20A				1200	EXIST. EMERG. FROM PANEL LC-1 (CKT. 18)
EXIST. EMERG. FROM PANEL LC-1 (CKT. 7)	1200				20A	7	X			8	20A					SPARE
EXIST. EXITS FROM 1KVA TRANSF. & DISC.	600				20A	9		X		10	20A					SPARE
SPARE					20A	11			X	12	20A					SPARE

LOAD DESCRIPTION	CONNECTED LOAD ØA	ØB	ØC	TOTAL	DEMAND FACTOR	DEMAND LOAD ØA	ØB	ØC	TOTAL	
LIGHTING LOAD (VOLT-AMPS)	3900	2800	1510	8210	1.00	3900	2800	1510	8210	
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0	RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0	
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0	
NON-CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0		0	0	0	0	**"LPE-145-102"**
TOTAL LOAD (kVA)	3.90	2.80	1.51	8.21	125% OF LIGHT, CONT AND	3.90	2.80	1.51	8.21	
TOTAL AMPACITY (AMPS)	32.5	23.3	12.6	22.8	(<=10kVA) LOAD PLUS OTHER LOAD	32.5	23.3	12.6	22.8	
MINIMUM FEEDER SIZING (AMPS)	40.6	29.1	15.7	28.5	<---- PER NEC ARTICLE 215.2 ---->	40.6	29.1	15.7	28.5	

GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS FOR COORDINATION OF ELECTRICAL DEVICES.
3. REFER TO CODE COMPLIANCE PLANS FOR FIRE BARRIERS, EGRESS PATHS AND TRAVEL DISTANCES ON SHEET GI002 THOUGH GI006.
4. REFER TO PHASING PLANS AND CONSTRUCTION ACCESS PLAN FOR COORDINATION OF ELECTRICAL DEVICES, EQUIPMENT, TEMPORARY PARTITION LOCATIONS, DEMOLITION AND INSTALLATION TIMING OF WORK ON SHEET NOS. GC100 AND IN SPECIFICATIONS.
5. REFER TO ARCHITECTURAL SHEETS FOR RATED WALL LOCATIONS, FLOOR SAW CUTTING AND REPAIR INFORMATION.
6. REFER TO MECHANICAL/ELECTRICAL SCHEDULES AND NOTES ON SHEETS ME601 FOR ADDITIONAL INFORMATION.
7. THE FOLLOWING SHADING INDICATES:
   SHADING INDICATES AREA OF EXISTING DEVICES, EQUIPMENT, AND FEEDERS TO REMAIN UNLESS NOTED OTHERWISE. AREAS FEATURING NO SHADING INDICATE WORK TO BE DEMOLISHED, FURNISHED AND INSTALLED UNDER THIS CONTRACT UNLESS NOTED OTHERWISE. ALL CIRCUITS/HOME RUNS OVERLAPPING WORK SCOPE AREA IS INCLUDED UNDER THIS CONTRACT.
8. THE FOLLOWING LINEWEIGHTS INDICATE:
   LIGHT SOLID LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO REMAIN AND ARE SHOWN FOR REFERENCE ONLY. EXISTING LOCATIONS AND LAYOUT MAY DIFFER FROM LAYOUT SHOWN. FIELD VERIFY EXACT LOCATIONS AND LAYOUT.
   DARK (BOLD) DASHED LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE REMOVED OR RELOCATED UNDER THIS CONTRACT. RELOCATED ITEMS WILL BE DESIGNATED WITH AN "(R)" NEXT TO THE EQUIPMENT OR FEEDER.
   DARK (BOLD) SOLID LINES INDICATE EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT.

SHEET NOTES

1. PROVIDE BRACING AND INTERRUPTING RATINGS FOR ALL EQUIPMENT BASED ON VALUES SHOWN ON 00-EP-700 THROUGH 00-EP-711 AND CORRESPONDING NOTES.
2. MOTOR HP AND SHAFT KW IS CONVERTED TO KVA BASED ON TABLE 430.150 OF THE NEC. HP = SHAFT KW/0.746
3. DEVICE SIZE AND OVER-CURRENT PROTECTION LOADS BASED ON 125% OF FULL LOAD PER ARTICLE 210.20 OF THE NEC.
4. FUSES (DUAL ELEMENT) FEEDING MOTORS BASED ON 150% OF FULL LOAD AS ALLOWED PER TABLE 430.52 OF THE NEC (175% MAX).
5. CIRCUIT BREAKERS (INVERSE TIM E) FEEDING MOTORS BASED ON 200% OF FULL LOAD AS ALLOWED PER TABLE 430.52 OF THE NEC (2505 MAX) AS IS SUGGESTED SIZE. RECOMMENDED SIZE OF CIRCUIT BREAKERS MAY VARY BY PANELBOARD MANUFACTURER.
6. MINIMUM FEEDER AMPS CALCULATED FROM 125% OF CONTINUOUS AND LARGEST INDIVIDUAL LOAD (IF NON-CONTINUOUS) PLUS REMAINING NON-CONTINUOUS CONNECTED (C) OR DEMAND (D) LOAD PER ARTICLE 215.2 AND 220.4(A) OF THE NEC.
7. ACTUAL CIRCUIT BREAKER FRAME SIZE MAY VARY BY PANELBOARD MANUFACTURER.
8. ALL MAIN BREAKERS IN POWER DISTRIBUTION PANELS (PDP) TO BE 100% RATED.
9. ALL SHUNT TRIP CIRCUIT BREAKERS TO HAVE BELL CIRCUIT WHERE REQUIRED.
10. ELECTRICAL DEVICE/EQUIPMENT QUANTITIES SHOWN IN PANEL SCHEDULES ARE NOT TO BE USED FOR BIDDING PURPOSES. REFER TO ELECTRICAL PLANS FOR DEVICE/EQUIPMENT LOCATIONS AND QUANTITIES.

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date
ISSUE 007 - BID UPDATE	07/24/15
ISSUE 006 - BID	06/12/15
ISSUE 005 - CD OWNER REVIEW (REVISED)	02/13/15
ISSUE 004 - CD OWNER REVIEW	11/20/14
ISSUE 003 - SD-DD OWNER REVIEW	10/15/14

CONSULTANTS:

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ALBERT KAHN JOB #: 03150-E0.000

Drawing Title: PANEL SCHEDULES
Approved: P. GARLAND
Project Title: RENOVATE B-145
Location: BATTLE CREEK, MICHIGAN
Date: 06/12/15
Checked: PMW
Drawn: PMW
Project Number: 515-10-122
Building Number: B-145
Drawing Number: EP603
Dwg. 65 of 78

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

PANEL DESIGNATION: DPN-145-111

PANEL LOCATION: REFER TO POWER PLANS | MAIN: 600A BREAKER | P-P Voltage: 480
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 800A | P-N Voltage: 277
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | Phase: 3
MOUNTING: SURFACE | Wire: 4
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: | Min SC Interrupting Rating: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C
SPD					100A	1	X		
						2		X	
						3			X
PPN-145-111 (REPLACEMENT FOR PANEL A)	0	0	0	6291	400A	4	X		
	0	0	0	6206		5		X	
	0	0	0	6206		6			X
RPN-145-111 (REPLACEMENT FOR PANEL B)	1200	4500	0	6046	90A	7	X		
	2700	4320	0	9578		8		X	
	4500	2880	0	3576		9			X
RPN-145-112 (REPLACEMENT FOR PANEL C)	1500	2340	1500	2065	60A	10	X		
	1500	1080	1500	2265		11		X	
	1500	180	0	3265		12			X
RPN-145-113 (REPLACEMENT FOR PANEL 2)	5400	3240	0	5855	90A	13	X		
	5100	4320	0	8301		14		X	
	3900	2160	0	9874		15			X
RPN-145-117 (REPLACEMENT FOR PANEL 1)	0	720	0	12482	60A	16	X		
	1200	720	0	8674		17		X	
	0	0	0	14268		18			X
RPN-145-114A & B (FORMERLY PANELS D1 & D1A)	1200	0	0	12348	60A	19	X		
	0	0	0	14004		20		X	
	0	0	0	7688		21			X
RPN-145-115 (FORMERLY PANEL M1)	0	0	0	7560	150A	22	X		
	0	180	0	5560		23		X	
	0	0	0	3600		24			X
RPN-145-116 (REPLACEMENT FOR PANEL WLP)	0	5400	0	11778	225A	25	X		
	0	3240	0	14743		26		X	
	1500	2160	0	13578		27			X
					XXX	28	X		
						29		X	
						30			X
					XXX	31	X		
						32		X	
						33			X
					XXX	34	X		
						35		X	
						36			X
					---	37	X		
					---	38		X	
					---	39			X
					---	40	X		
					---	41		X	
					---	42			X

Connected Load

	LIGHTING LOAD (VOLT-AMPS)	180VA RECEPTACLE LOAD (VOLT-AMPS)	AMOUNT OVER 10kVA	CONTINUOUS LOAD (VOLT-AMPS)	NON-CONTINUOUS LOAD (VOLT-AMPS)
ØA	10800	16020		1500	67957
ØB	10500	13860		1500	69331
ØC	11400	7380		0	62055
Tot	32700	37260	27260	3000	199343
Total kVA	299.56			Amps	360.31
				Min Feeder Amps	373.15

Demand Load

	LIGHTING	RECEPTACLE	NOTE 1	CONTINUOUS	NON-CONTINUOUS
DF	1.00	Note 1		1.00	
ØA	10800	10160	5860	1500	40774
ØB	10500	8790	5070	1500	41599
ØC	11400	4680	2700	0	37233
Tot	32700	23630	13630	3000	119606
Total kVA	192.57			Amps	231.61
				Min Feeder Amps	244.45

Note 1:
Receptacle Demand Factor per Article 220.44 of the National Electrical Code.
- Demand Factor of 1.00 for FIRST 10kVA
- Demand Factor of 0.50 for OVER 10kVA

Note 2:
Minimum Feeder Size Amps; 125% of Light/Cont and Recept (<10kVA) load plus other load per Article 215.2 of the NEC.

(REPLACEMENT FOR DPN-145-2/HA-9)

PANEL DESIGNATION: RPN-145-112

PANEL LOCATION: REFER TO POWER PLANS | MAIN: 125A BREAKER | P-P VOLTAGE: 208
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 225A | P-N VOLTAGE: 120
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | PHASE: 3
MOUNTING: SURFACE | WIRE: 4
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: | MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
SPARE					20A	1	X			2	20A		1500			EXISTING SOILED BAY HEATERS
						3		X		4			1500			
SPARE					20A	5			X	6	20A	1200				EXISTING IPL CIRCUIT NO. 3
EXISTING PLUGS - MECHANICAL ROOM		1080			20A	7	X			8	20A	1165				EXISTING OVERHEAD DOORS
EXISTING EXTERIOR LIGHTS	1500				20A	9		X		10	20A	1165				EXISTING OVERHEAD DOORS
	1500					11			X	12	20A	1165				EXISTING OVERHEAD DOORS
EXISTING PLUGS - COMPUTER OFFICE		1080			20A	13	X			14	20A				1500	EXISTING MEZZANINE LIGHTS
EXISTING PLUGS - OFFICE		1080			20A	15		X		16	30A					SPARE
COUNTER RECEPT (108B)		180			20A	17			X	18						
COUNTER RECEPT (108B)		180			20A	19	X			20	20A					SPARE
MICROWAVE (108B)				1100	20A	21		X		22	20A					SPARE
COFFE MASTER (108B)				900	20A	23			X	24	20A					SPARE
COFFE MASTER (108B)				900	20A	25	X			26	20A					SPARE
SPARE					20A	27		X		28	20A					SPARE
SPARE					20A	29			X	30	20A					SPARE

	CONNECTED LOAD				DEMAND	DEMAND LOAD			
LOAD DESCRIPTION	ØA	ØB	ØC	TOTAL	FACTOR	ØA	ØB	ØC	TOTAL
LIGHTING LOAD (VOLT-AMPS)	1500	1500	1500	4500	1.00	1500	1500	1500	4500
180VA RECEPTACLE LOAD (VOLT-AMPS)	2340	1080	180	3600	1.00 (FIRST 10kVA)	2340	1080	180	3600
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0
CONTINUOUS LOAD (VOLT-AMPS)	1500	1500	0	3000	1.00	1500	1500	0	3000
NON-CONTINUOUS LOAD (VOLT-AMPS)	2065	2265	3265	7595		1239	1359	1959	4557
TOTAL LOAD (kVA)	7.41	6.35	4.95	18.70	125% OF LIGHT, CONT AND	6.58	5.44	3.64	15.66
TOTAL AMPACITY (AMPS)	61.7	52.8	41.2	51.9	(<=10kVA) LOAD PLUS OTHER LOAD	54.8	45.3	30.3	43.5
MINIMUM FEEDER SIZING (AMPS)	72.8	61.3	44.7	59.6	<---- PER NEC ARTICLE 215.2 ---->	65.9	53.8	33.8	51.2

RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL

(REPLACEMENT FOR PANEL C)

PANEL DESIGNATION: RPN-145-114A

PANEL LOCATION: REFER TO POWER PLANS | MAIN: 100A BREAKER | P-P VOLTAGE: 208
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 100A | P-N VOLTAGE: 120
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | PHASE: 3
MOUNTING: SURFACE | WIRE: 4
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: | MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
SPACE					20A	1	X			2	20A					SPACE
SPACE					20A	3		X		4	20A					SPACE
SPACE					20A	5			X	6	20A					SPACE
EXISTING PANEL D1	1200	0	0	7688	60A	7	X			8	20A					SPACE
	0	0	0	9344		9		X		10	20A					SPACE
	0	0	0	7688		11			X	12	20A					SPACE
EXISTING ALARM PANEL - BEHIND BOILER ROOM				4660	70A	13	X			14	20A					SPACE
				4660		15		X		16	20A					SPACE
SPACE					20A	17			X	18	20A					SPACE
SPACE					20A	19	X			20	20A					SPACE
SPACE					20A	21		X		22	20A					SPACE
SPACE					20A	23			X	24	20A					SPACE

	CONNECTED LOAD				DEMAND	DEMAND LOAD			
LOAD DESCRIPTION	ØA	ØB	ØC	TOTAL	FACTOR	ØA	ØB	ØC	TOTAL
LIGHTING LOAD (VOLT-AMPS)	1200	0	0	1200	1.00	1200	0	0	1200
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0
NON-CONTINUOUS LOAD (VOLT-AMPS)	12348	14004	7688	34040		7409	8402	4613	20424
TOTAL LOAD (kVA)	13.55	14.00	7.69	35.24	125% OF LIGHT, CONT AND	8.61	8.40	4.61	21.62
TOTAL AMPACITY (AMPS)	112.8	116.6	64.0	97.8	(<=10kVA) LOAD PLUS OTHER LOAD	71.7	70.0	38.4	60.0
MINIMUM FEEDER SIZING (AMPS)	115.3	116.6	64.0	98.6	<---- PER NEC ARTICLE 215.2 ---->	74.2	70.0	38.4	60.9

RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL

(FORMERLY PANEL D)

PANEL DESIGNATION: RPN-145-113

PANEL LOCATION: REFER TO POWER PLANS | MAIN: 175A BREAKER | P-P VOLTAGE: 208
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 225A | P-N VOLTAGE: 120
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | PHASE: 3
MOUNTING: SURFACE | WIRE: 4
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: | MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING RECEPTACLES (WEST OFFICE 1)		1080			20A	1	X			2	20A				1500	EXISTING LIGHTS (OFFICE 1 AND 2)
EXISTING RECEPTACLES (WEST OFFICE 2)		1080			20A	3		X		4	20A			1080		EXISTING PLUGMOLD (GENERAL OFFICE)
EXISTING RECEPTACLES (SOUTH)		1080			20A	5			X	6	20A			1080		EXISTING PLUGMOLD (GENERAL OFFICE)
EXISTING SOFFIT LIGHTS	1200				20A	7	X			8	20A					SPARE
EXISTING LIGHTS	1200				15A	9		X		10	15A				1200	EXISTING LIGHTS (GENERAL OFFICE)
EXISTING LIGHTS	1200				15A	11			X	12	15A				1200	EXISTING LIGHTS (GENERAL OFFICE)
EXISTING LIGHTS	1200				15A	13	X			14	20A			1080		EXISTING RECEPTACLES (OFFICE 3)
EXISTING LIGHTS	1200				15A	15		X		16	20A				1500	EXISTING LIGHTS (OFFICE 3)
EXISTING EXHAUST FANS				1392	20A	17			X	18	15A				1500	EXISTING LIGHTS (DRUG ROOM)
EXISTING EXHAUST FAN AND ROOF				1392	20A	19	X			20					1500	
EXISTING RECEPTACLES (DRUG ROOM)		1080			15A	21		X		22	60A	3994				EXISTING ELECTRIC SHELVES
EXISTING WORD PROCESSOR				1800	20A	23			X	24		3994				
EXISTING CONTROLS FOR HEAT EXCHANGER				1800	20A	25	X			26	20A	1415				EXISTING IPL EQUIPMENT
EXISTING STAB FANS				1392	20A	27		X		28		1415				
EXISTING COPY MACHINE				1440	20A	29			X	30	15A	1248				EXISTING COPY MACHINE
EXISTING ISLAND FURNITURE (108)		1080			20A	31	X			32		1248				
EXIST. RECEPTACLES (TELEPHONE BACKBOARD)		1080			20A	33		X		34	20A	1500				EXIST. MICROWAVE AND MINI-REFRIGERATOR
SPARE					20A	35			X	36	20A					SPARE
SPARE					20A	37	X			38	20A					SPARE
SPARE					20A	39		X		40	20A					SPARE
SPARE					20A	41			X	42	20A					SPARE

	CONNECTED LOAD				DEMAND	DEMAND LOAD			
LOAD DESCRIPTION	ØA	ØB	ØC	TOTAL	FACTOR	ØA	ØB	ØC	TOTAL
LIGHTING LOAD (VOLT-AMPS)	5400	5100	3900	14400	1.00	5400	5100	3900	14400
180VA RECEPTACLE LOAD (VOLT-AMPS)	3240	4320	2160	9720	1.00 (FIRST 10kVA)	3240	4320	2160	9720
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0
NON-CONTINUOUS LOAD (VOLT-AMPS)	5855	8301	9874	24030		3513	4981	5924	14418
TOTAL LOAD (kVA)	14.50	17.72	15.93	48.15	125% OF LIGHT, CONT AND	12.15	14.40	11.98	38.54
TOTAL AMPACITY (AMPS)	120.7	147.6	132.7	133.7	(<=10kVA) LOAD PLUS OTHER LOAD	101.2	119.9	99.8	107.0
MINIMUM FEEDER SIZING (AMPS)	138.7	167.2	145.3	150.4	<---- PER NEC ARTICLE 215.2 ---->	119.2	139.5	112.4	123.7

RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL CODE.

(REPLACEMENT FOR PANEL 2)

PANEL DESIGNATION: RPN-145-114B

PANEL LOCATION: REFER TO POWER PLANS | MAIN: MLO | P-P VOLTAGE: 208
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 100A | P-N VOLTAGE: 120
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | PHASE: 3
MOUNTING: SURFACE | WIRE: 4
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: | MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING AUTOLOG CHARGER (RIGHT SIDE OF ROLL-UP DOOR)				1922	20A	1	X			2	30A	2883				EXISTING REFRIGERATOR COOLER COMPRESSOR NO. 1
				1922		3		X		4		2883				
				1922		5			X	6		2883				
EXISTING COOLER LIGHTING	1200				20A	7	X			8	30A	2883				EXISTING FREEZER COOLER COMPRESSOR NO. 2
EXISTING EXHAUST FAN				1656	20A	9		X		10		2883				
SPACE					20A	11			X	12		2883				

	CONNECTED LOAD				DEMAND	DEMAND LOAD			
LOAD DESCRIPTION	ØA	ØB	ØC	TOTAL	FACTOR	ØA	ØB	ØC	TOTAL
LIGHTING LOAD (VOLT-AMPS)	1200	0	0	1200	1.00	1200	0	0	1200
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0
NON-CONTINUOUS LOAD (VOLT-AMPS)	7688	9344	7688	24720		4613	5606	4613	14832
TOTAL LOAD (kVA)	8.89	9.34	7.69	25.92	125% OF LIGHT, CONT AND	5.81	5.61	4.61	16.03
TOTAL AMPACITY (AMPS)	74.0	77.8	64.0	71.9	(<=10kVA) LOAD PLUS OTHER LOAD	48.4	46.7	38.4	44.5
MINIMUM FEEDER SIZING (AMPS)	76.5	77.8	64.0	72.8	<---- PER NEC ARTICLE 215.2 ---->	50.9	46.7	38.4	45.3

RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL

(FORMERLY PANEL D1)

PANEL DESIGNATION: PPN-145-111

PANEL LOCATION: REFER TO POWER PLANS | MAIN: 400A BREAKER | P-P VOLTAGE: 480
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 400A | P-N VOLTAGE: 277
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | PHASE: 3
MOUNTING: SURFACE | WIRE: 4
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: | MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
SPARE					30A	1	X			2	20A	85				RP-1 (1/25HP-.74A-120V-1PH)
						3		X		4	20A					SPACE
						5			X	6	20A					SPACE
SPARE					20A	7	X			8						SPACE
						9		X		10	100A					
						11			X	12						
SPARE					100A	13	X			14						SPACE
						15		X		16	100A					
						17			X	18						
SPARE					60A	19	X			20		3103				EXISTING HEAT EXCHANGER
						21		X		22	60A	3103				
SPARE					20A	23			X	24		3103				
SPARE					50A	25	X			26		3103				EXISTING IPL NO. 1
						27		X		28	20A	3103				
						29			X	30		3103				
SPACE					20A	31	X			32	20A					SPACE
SPACE					20A	33		X		34	20A					SPACE
SPACE					20A	35			X	36	20A					SPACE

	CONNECTED LOAD				DEMAND	DEMAND LOAD			
LOAD DESCRIPTION	ØA	ØB	ØC	TOTAL	FACTOR	ØA	ØB	ØC	TOTAL
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	0	0	0	1.00 (FIRST 10kVA)	0	0	0	0
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0
NON-CONTINUOUS LOAD (VOLT-AMPS)	6291	6206	6206	18703		3775	3724	3724	11222
TOTAL LOAD (kVA)	6.29	6.21	6.21	18.70	125% OF LIGHT, CONT AND	3.77	3.72	3.72	11.22
TOTAL AMPACITY (AMPS)	22.7	22.4	22.4	22.5	(<=10kVA) LOAD PLUS OTHER LOAD	13.6	13.4	13.4	13.5
MINIMUM FEEDER SIZING (AMPS)	22.7	22.4	22.4	22.5	<---- PER NEC ARTICLE 215.2 ---->	13.6	13.4	13.4	13.5

RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL

(REPLACEMENT FOR PANEL A)

PANEL DESIGNATION: RPN-145-117

PANEL LOCATION: REFER TO POWER PLANS | MAIN: 125A BREAKER | P-P VOLTAGE: 208
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 225A | P-N VOLTAGE: 120
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | PHASE: 3
MOUNTING: SURFACE | WIRE: 4
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: | MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING RELAY				500	30A	1	X			2	60A	3994				EXISTING SHELVING
EXISTING SHELVING				4680	70A	3		X		4		3994				
				4680		5			X	6	60A	3994				EXISTING SHELVING
EXISTING TELEPHONE ROOM RECEPTACLE		720			20A	7	X			8		3994				
EXISTING TELEPHONE ROOM RECEPTACLE		720			20A	9		X		10	20A				1200	EXISTING TELEPHONE ROOM LIGHTING
EXISTING TELEPHONE ROOM A/C				1600	20A	11			X	12	60A	3994				EXISTING SHELVING FROM PANEL 1A
SPARE					20A	13	X			14		3994				
SPARE					20A	15		X		16	20A					SPARE
SPARE					20A	17			X	18	20A					SPARE
SPARE					20A	19	X			20	20A					SPARE
SPARE					20A	21		X		22	20A					SPARE
SPARE					20A	23			X	24	20A					SPARE
SPARE					20A	25	X			26	20A					SPARE
SPARE					20A	27		X		28	20A					SPARE
SPARE					20A	29			X	30	20A					SPARE

	CONNECTED LOAD				DEMAND	DEMAND LOAD			
LOAD DESCRIPTION	ØA	ØB	ØC	TOTAL	FACTOR	ØA	ØB	ØC	TOTAL
LIGHTING LOAD (VOLT-AMPS)	0	1200	0	1200	1.00	0	1200	0	1200
180VA RECEPTACLE LOAD (VOLT-AMPS)	720	720	0	1440	1.00 (FIRST 10kVA)	720	720	0	1440
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0
NON-CONTINUOUS LOAD (VOLT-AMPS)	12482	8674	14268	35424		7489	5204	8561	21254
TOTAL LOAD (kVA)	13.20	10.59	14.27	38.06	125% OF LIGHT, CONT AND	8.21	7.12	8.56	23.89
TOTAL AMPACITY (AMPS)	109.9	88.2	118.8	105.7	(<=10kVA) LOAD PLUS OTHER LOAD	68.4	59.3	71.3	66.3
MINIMUM FEEDER SIZING (AMPS)	111.4	92.2	118.8	107.5	<---- PER NEC ARTICLE 215.2 ---->	69.9	63.3	71.3	68.2

RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL

(REPLACEMENT FOR PANEL 1)

PANEL DESIGNATION: RPN-145-115

PANEL LOCATION: REFER TO POWER PLANS | MAIN: MLO | P-P VOLTAGE: 208
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 250A | P-N VOLTAGE: 120
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | PHASE: 3
MOUNTING: SURFACE | WIRE: 4
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: | MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING MAIL RM 1				1800	20A	1	X			2	35A	2860				AC-1 (27.5A-208V-1PH)
EXISTING MAIL RM 2				1800	20A	3		X		4		2860				
EXISTING MAIL RM 5				1800	20A	5			X	6	20A	1800				EXISTING IRM RM 6
MICROWAVE (107)				1100	20A	7	X			8	20A	1800				EXISTING IRM RM 8
COFFE MAKER (107)				900	20A	9		X		10	20A			180		COUNTER RECEPT 107
EXISTNG SPACE					---	11			X	12	---					EXISTNG SPACE
EXISTNG SPACE					---	13	X			14	---					EXISTNG SPACE
EXISTNG SPACE					---	15		X		16	---					EXISTNG SPACE
EXISTNG SPACE					---	17			X	18	---					EXISTNG SPACE
EXISTNG SPACE					---	19	X			20	---					EXISTNG SPACE
EXISTNG SPACE					---	21		X		22	---					EXISTNG SPACE
EXISTNG SPACE					---	23			X	24	---					EXISTNG SPACE
EXISTNG SPACE					---	25	X			26	---					EXISTNG SPACE
EXISTNG SPACE					---	27		X		28	---					EXISTNG SPACE
EXISTNG SPACE					---	29			X	30	---					EXISTNG SPACE
EXISTNG SPACE					---	31	X			32	---					EXISTNG SPACE
EXISTNG SPACE					---	33		X		34	---					EXISTNG SPACE
EXISTNG SPACE					---	35			X	36	---					EXISTNG SPACE
EXISTNG SPACE					---	37	X			38	---					EXISTNG SPACE
EXISTNG SPACE					---	39		X		40	---					EXISTNG SPACE
EXISTNG SPACE					---	41			X	42	---					EXISTNG SPACE

	CONNECTED LOAD				DEMAND	DEMAND LOAD			
LOAD DESCRIPTION	ØA	ØB	ØC	TOTAL	FACTOR	ØA	ØB	ØC	TOTAL
LIGHTING LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0
180VA RECEPTACLE LOAD (VOLT-AMPS)	0	180	0	180	1.00 (FIRST 10kVA)	0	180	0	180
	AMOUNT OVER 10kVA			0	0.50 (> 10kVA)	0	0	0	0
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0
NON-CONTINUOUS LOAD (VOLT-AMPS)	7560	5560	3600	16720		4536	3336	2160	10032
TOTAL LOAD (kVA)	7.56	5.74	3.60	16.90	125% OF LIGHT, CONT AND	4.54	3.52	2.16	10.21
TOTAL AMPACITY (AMPS)	63.0	47.8	30.0	46.9	(<=10kVA) LOAD PLUS OTHER LOAD	37.8	29.3	18.0	28.3
MINIMUM FEEDER SIZING (AMPS)	63.0	48.2	30.0	47.0	<---- PER NEC ARTICLE 215.2 ---->	37.8	29.7	18.0	28.5

RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL

(FORMERLY PANEL M1)

PANEL DESIGNATION: RPN-145-111

PANEL LOCATION: REFER TO POWER PLANS | MAIN: 175A BREAKER | P-P VOLTAGE: 208
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 225A | P-N VOLTAGE: 120
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | PHASE: 3
MOUNTING: SURFACE | WIRE: 4
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: | MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø A	Ø B	Ø C	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING PLUGS - WATER METER		180			20A	1	X			2	20A	200				BATHROOM SENSORS (108G,108F)
EXISTING PLUGS - WAREHOUSE		1080			20A	3		X		4	20A	200				BATHROOM SENSORS (111D,111I)
SPARE					20A	5			X	6	20A			720		GFI RECEPT (108G,108F,111D,111I)
EXISTING PLUGS - WAREHOUSE		1080			20A	7	X			8	20A	200				EXISTING PHOTO EYE
EXISTING DRILL PRESS				1800	20A	9		X		10	20A					SPARE
EXISTING PLUGS - WAREHOUSE		1080			20A	11			X	12	20A					SPARE
EXISTING PLUGS - WAREHOUSE		1080			20A	13	X			14	20A	900				EXISTING REFRIGERATOR - BREAK ROOM
EXISTING PLUGS - WAREHOUSE		1080			20A	15		X		16	20A	1176				EXISTING BATH FANS
EXISTING EXTERIOR LIGHTS	1500				20A	17			X	18	20A	1176				EXISTING BATH FANS
SPARE					20A	19	X			20	20A				1200	EXISTING BATH LIGHTS
SPARE					20A	21		X		22	20A				1200	EXISTING BATH LIGHTS
EXISTING EXTERIOR LIGHTS	1500				20A	23			X	24	20A	1200				EXISTING IPL CIRCUIT NO. 1
SPACE					20A	25	X			26	20A			1080		EXISTING BATH OUTLETS
EXISTING OFFICE LIGHTS	1500				20A	27		X		28	20A			1080		EXISTING BATH OUTLETS
EXISTING OFFICE LIGHTS	1500				20A	29			X	30	20A					SPARE
EXISTING PLUGS - OFFICE		1080			20A	31	X			32	20A					SPARE
EXISTING PLUGS - OFFICE		1080			20A	33		X		34	20A	1656				EXISTING FURNACE
SPARE					20A	35			X	36	20A					SPARE
EXISTING AIR CONDITIONER				2496	30A	37	X			38	30A	2250				EXISTING HOT WATER HEATER
				2496		39		X		40		2250				
EXISTING PLUGS - OFFICE		1080			20A	41			X	42	20A	1200				EXISTING IPL CIRCUIT NO. 2

	CONNECTED LOAD				DEMAND	DEMAND LOAD			
LOAD DESCRIPTION	ØA	ØB	ØC	TOTAL	FACTOR	ØA	ØB	ØC	TOTAL
LIGHTING LOAD (VOLT-AMPS)	1200	2700	4500	8400	1.00	1200	2700	4500	8400
180VA RECEPTACLE LOAD (VOLT-AMPS)	4500	4320	2880	11700	1.00 (FIRST 10kVA)	3846	3692	2462	10000
	AMOUNT OVER 10kVA			1700	0.50 (> 10kVA)	327	314	209	850
CONTINUOUS LOAD (VOLT-AMPS)	0	0	0	0	1.00	0	0	0	0
NON-CONTINUOUS LOAD (VOLT-AMPS)	6046	9578	3576	19200		3628	5747	2146	11520
TOTAL LOAD (kVA)	11.75	16.60	10.96	39.30	125% OF LIGHT, CONT AND	9.00	12.45	9.32	30.77
TOTAL AMPACITY (AMPS)	97.8	138.2	91.2	109.1	(<=10kVA) LOAD PLUS OTHER LOAD	74.9	103.7	77.6	85.4
MINIMUM FEEDER SIZING (AMPS)	109.7	152.8	106.6	123.0	<---- PER NEC ARTICLE 215.2 ---->	85.5	117.0	92.1	98.2

RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL

(REPLACEMENT FOR PANEL B)

PANEL DESIGNATION: EXISTING PANEL 1A

PANEL LOCATION: REFER TO POWER PLANS | MAIN: MLO | P-P VOLTAGE: XXX
FED FROM: REFER TO ONE-LINE DIAGRAM | BUSSING: 100A | P-N VOLTAGE: 120
FEEDER SIZE: REFER TO ONE-LINE DIAGRAM | MAIN LOCATION: TOP | PHASE: 1
MOUNTING: SURFACE | WIRE: 3
NEMA RATING: 1 | NEUTRAL: 100%
GROUND BUS: STANDARD | IP RATING: XXX | MIN. SC INTERRUPTING RATING: REFER TO SHORT CIRCUIT STUDY

Remarks	LIGHT LOAD	RECEPT LOAD	CONT LOAD	nonC LOAD	OC PROT	CCT	Ø 1		Ø 2	CCT	OC PROT	nonC LOAD	CONT LOAD	RECEPT LOAD	LIGHT LOAD	Remarks
EXISTING SPACE					---	1	X			2	60A	3994				EXISTING MOVABLE SHELVING
EXISTING SPACE					---	3			X	4		3994				
EXISTING SPARE					20A	5	X			6	---					EXISING SPACE
EXISTING SPACE					---	7			X	8	---					EXISING SPACE

	CONNECTED LOAD				DEMAND	DEMAND LOAD			
LOAD DESCRIPTION	Ø1		Ø2	TOTAL	FACTOR	Ø1		Ø2	TOTAL
LIGHTING LOAD (VOLT-AMPS)	0		0	0	1.00	0		0	0
180VA RECEPTACLE LOAD (VOLT-AMPS)	0		0	0	1.00 (FIRST 10kVA)	0		0	0
	AMOUT OVER 10kVA		0	0	0.50 (> 10kVA)	0		0	0
CONTINUOUS LOAD (VOLT-AMPS)	0		0	0	1.00	0		0	0
NON-CONTINUOUS LOAD (VOLT-AMPS)	3994		3994	7988		2396		2396	4793
TOTAL LOAD (kVA)	3.99		3.99	7.99	125% OF LIGHT, CONT AND	2.40		2.40	4.79
TOTAL AMPACITY (AMPS)	33.3		33.3	#####	(<=10kVA) LOAD PLUS OTHER LOAD	20.0		20.0	#####
MINIMUM FEEDER SIZING (AMPS)	33.3		33.3	#####	<---- PER NEC ARTICLE 215.2 ---->	20.0		20.0	#####

RECEPTACLE DEMAND FACTOR PER ARTICLE 220.44 OF THE NATIONAL ELECTRICAL

(RELOCATE LOADS TO PANEL RPN-145-117)

GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS FOR COORDINATION OF ELECTRICAL DEVICES.
3. REFER TO CODE COMPLIANCE PLANS FOR FIRE BARRIERS, EGRESS PATHS AND TRAVEL DISTANCES ON SHEET GI002 THOUGH GI006.
4. REFER TO PHASING PLANS AND CONSTRUCTION ACCESS PLAN FOR COORDINATION OF ELECTRICAL DEVICES, EQUIPMENT, TEMPORARY PARTITION LOCATIONS, DEMOLITION AND INSTALLATION TIMING OF WORK ON SHEET NOS. GC100 AND IN SPECIFICATIONS.
5. REFER TO ARCHITECTURAL SHEETS FOR RATED WALL LOCATIONS, FLOOR SAW CUTTING AND REPAIR INFORMATION.
6. REFER TO MECHANICAL/ELECTRICAL SCHEDULES AND NOTES ON SHEETS ME601 FOR ADDITIONAL INFORMATION.
7. THE FOLLOWING SHADING INDICATES:
   - SHADING INDICATES AREA OF EXISTING DEVICES, EQUIPMENT, AND FEEDERS TO REMAIN UNLESS NOTED OTHERWISE. AREAS FEATURING NO SHADING INDICATE WORK TO BE DEMOLISHED, FURNISHED AND INSTALLED UNDER THIS CONTRACT UNLESS NOTED OTHERWISE. ALL CIRCUITS/HOME RUNS OVERLAPPING WORK SCOPE AREA IS INCLUDED UNDER THIS CONTRACT.
8. THE FOLLOWING LINEWEIGHTS INDICATE:
   - LIGHT SOLID LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO REMAIN AND ARE SHOWN FOR REFERENCE ONLY. EXISTING LOCATIONS AND LAYOUT MAY DIFFER FROM LAYOUT SHOWN. FIELD VERIFY EXACT LOCATIONS AND LAYOUT.
   - DARK (BOLD) DASHED LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE REMOVED OR RELOCATED UNDER THIS CONTRACT. RELOCATED ITEMS WILL BE DESIGNATED WITH AN "(R)" NEXT TO THE EQUIPMENT OR FEEDER.
   - DARK (BOLD) SOLID LINES INDICATE EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT.

SHEET NOTES

1. PROVIDE BRACING AND INTERRUPTING RATINGS FOR ALL EQUIPMENT BASED ON VALUES SHOWN ON 00-EP-700 THROUGH 00-EP-711 AND CORRESPONDING NOTES.
2. MOTOR HP AND SHAFT KW IS CONVERTED TO KVA BASED ON TABLE 430.150 OF THE NEC. HP = SHAFT KW/0.746
3. DEVICE SIZE AND OVER-CURRENT PROTECTION LOADS BASED ON 125% OF FULL LOAD PER ARTICLE 210.20 OF THE NEC.
4. FUSES (DUAL ELEMENT) FEEDING MOTORS BASED ON 150% OF FULL LOAD AS ALLOWED PER TABLE 430.52 OF THE NEC (175% MAX).
5. CIRCUIT BREAKERS (INVERSE TIM E) FEEDING MOTORS BASED ON 200% OF FULL LOAD AS ALLOWED PER TABLE 430.52 OF THE NEC (2505 MAX) AS IS SUGGESTED SIZE. RECOMMENDED SIZE OF CIRCUIT BREAKERS MAY VARY BY PANELBOARD MANUFACTURER.
6. MINIMUM FEEDER AMPS CALCULATED FROM 125% OF CONTINUOUS AND LARGEST INDIVIDUAL LOAD (IF NON-CONTINUOUS) PLUS REMAINING NON-CONTINUOUS CONNECTED (C) OR DEMAND (D) LOAD PER ARTICLE 215.2 AND 220.4(A) OF THE NEC.
7. ACTUAL CIRCUIT BREAKER FRAME SIZE MAY VARY BY PANELBOARD MANUFACTURER.
8. ALL MAIN BREAKERS IN POWER DISTRIBUTION PANELS (PDP) TO BE 100% RATED.
9. ALL SHUNT TRIP CIRCUIT BREAKERS TO HAVE BELL CIRCUIT WHERE REQUIRED.
10. ELECTRICAL DEVICE/EQUIPMENT QUANTITIES SHOWN IN PANEL SCHEDULES ARE NOT TO BE USED FOR BIDDING PURPOSES. REFER TO ELECTRICAL PLANS FOR DEVICE/EQUIPMENT LOCATIONS AND QUANTITIES.

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

Revisions:	Date
ISSUE 007 - BID UPDATE	07/24/15
ISSUE 006 - BID	06/12/15
ISSUE 005 - CD OWNER REVIEW (REVISED)	02/13/15
ISSUE 004 - CD OWNER REVIEW	11/20/14
ISSUE 003 - SD-DD OWNER REVIEW	10/15/14

CONSULTANTS:

ARCHITECT/ENGINEERS:

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7430 Second Ave.
Detroit, Michigan 48202-2798
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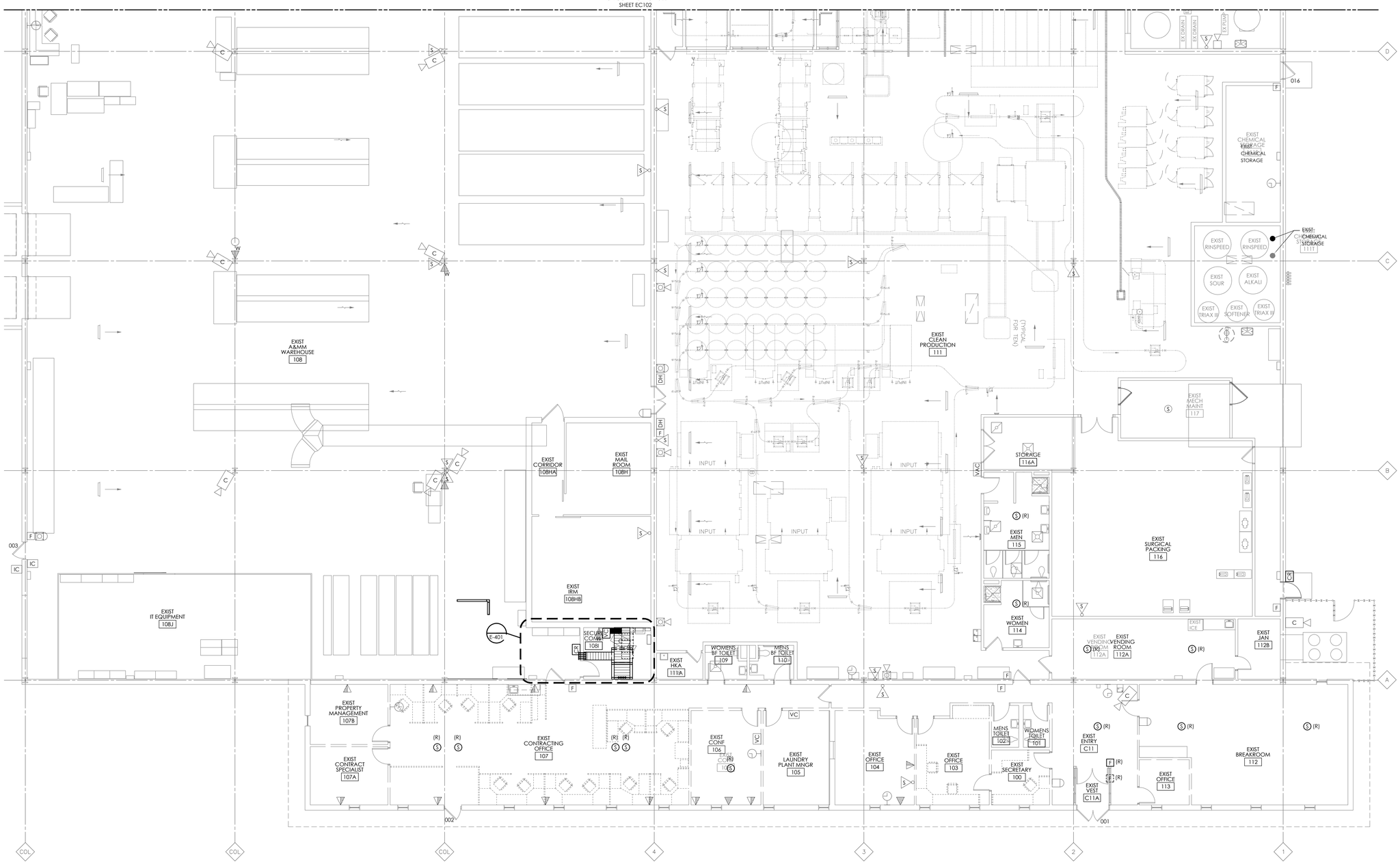
Drawing Title: PANEL SCHEDULES
Project Title: RENOVATE B-145
Project Number: 515-10-122
Building Number: B-145
Approved: P. GARLAND
Location: BATTLE CREEK, MICHIGAN
Date: 06/12/15 | Checked: PMW | Drawn: PMW
Drawing Number: EP604
Dwg. 66 of 78

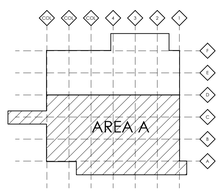
Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



FIRST FLOOR COMMUNICATIONS PLAN - AREA A

1/8" = 1'-0"



GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS FOR COORDINATION OF ELECTRICAL DEVICES.
3. REFER TO CODE COMPLIANCE PLANS FOR FIRE BARRIERS, EGRESS PATHS AND TRAVEL DISTANCES ON SHEET GI002 THOUGH GI006.
4. REFER TO PHASING PLANS AND CONSTRUCTION ACCESS PLAN FOR COORDINATION OF ELECTRICAL DEVICES, EQUIPMENT, TEMPORARY PARTITION LOCATIONS, DEMOLITION AND INSTALLATION TIMING OF WORK ON SHEET NOS. GC100 AND IN SPECIFICATIONS.
5. REFER TO ARCHITECTURAL SHEETS FOR RATED WALL LOCATIONS, FLOOR SAW CUTTING AND REPAIR INFORMATION.
6. REFER TO MECHANICAL/ELECTRICAL SCHEDULES AND NOTES ON SHEETS ME601 FOR ADDITIONAL INFORMATION.
7. THE FOLLOWING SHADING INDICATES:

   SHADING INDICATES AREA OF EXISTING DEVICES, EQUIPMENT, AND FEEDERS TO REMAIN UNLESS NOTED OTHERWISE. AREAS FEATURING NO SHADING INDICATE WORK TO BE DEMOLISHED, FURNISHED AND INSTALLED UNDER THIS CONTRACT UNLESS NOTED OTHERWISE. ALL CIRCUITS/HOME RUNS OVERLAPPING WORK SCOPE AREA IS INCLUDED UNDER THIS CONTRACT.
8. THE FOLLOWING LINEWEIGHTS INDICATE:

   LIGHT SOLID LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO REMAIN AND ARE SHOWN FOR REFERENCE ONLY. EXISTING LOCATIONS AND LAYOUT MAY DIFFER FROM LAYOUT SHOWN. FIELD VERIFY EXACT LOCATIONS AND LAYOUT.

   DARK (BOLD) DASHED LINES INDICATE EXISTING EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE REMOVED OR RELOCATED UNDER THIS CONTRACT. RELOCATED ITEMS WILL BE DESIGNATED WITH AN "(R)" NEXT TO THE EQUIPMENT OR FEEDER.

   DARK (BOLD) SOLID LINES INDICATE EQUIPMENT, DEVICES, BRANCH CIRCUITS, AND FEEDERS TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT.

COMMUNICATION NOTES

1. EXTEND EXISTING FIRE ALARM SYSTEM CIRCUITING TO ACCOMMODATE DEVICES INSTALLED UNDER THIS CONTRACT AS REQUIRED. REPROGRAM FIRE ALARM CONTROL PANEL AS REQUIRED. ALL FIRE ALARM CABLE AND WIRING SHALL BE INSTALLED IN CONDUIT.
2. ELECTRONICALLY LOCKED EGRESS DOORS SHALL BE INTERLOCKED TO THE FIRE ALARM SYSTEM TO RELEASE ON CENTRAL ALARM.
3. EXTEND EXISTING TELEPHONE/DATA CIRCUITS AS REQUIRED.
4. EXTEND EXISTING NURSE CALL SYSTEM CIRCUITING TO ACCOMMODATE DEVICES INSTALLED UNDER THIS CONTRACT AS REQUIRED. ALL NURSE CALL DEVICES REPORT TO EXISTING MASTER STATION LOCATED IN EXISTING RECEPTION A234.
5. TYPICAL IN-WALL DATA OUTLETS SHALL BE 4"X4"X2 3/4" WITH SINGLE GANG MUD RINGS AND 1" CONDUIT TO OPEN SPACE ABOVE NEAREST LAY IN CEILING (NORMALLY IN THE SAME ROOM). REFER TO SHEET NO. EC501 FOR ADDITIONAL INFORMATION.
6. FURNISH AND INSTALL PLUGSTRIP WITH DATA OUTLETS. REFER TO DETAIL ON SHEET EP105.
7. EXTEND EXISTING PUBLIC ADDRESS SYSTEM CIRCUITING TO ACCOMMODATE DEVICES INSTALLED UNDER THIS CONTRACT AS REQUIRED. ALL PUBLIC ADDRESS DEVICES AND CIRCUITING TIE BACK INTO VOLUME CONTROLS LOCATED IN COMM A237, A270, OR B230.
8. THE PLANS INDICATE DEVICES AND EQUIPMENT BEING REMOVED, RELOCATED, AND/OR REINSTALLED BY AN "(R)". ACTUAL QUANTITIES OF DEVICES MAY DIFFER FROM FIELD CONDITIONS DUE TO DAMAGE OR CHANGES IN HEALTH CARE OPERATIONS SINCE FIELD SURVEY. FURNISH AND INSTALL DEVICES AND EQUIPMENT TO MATCH THIS PLAN.
9. EXISTING TELEMETRY ANTENNAS AND TELEMED STATION A213 ARE TO REMAIN ACTIVE DURING CONSTRUCTION.

FULLY SPRINKLERED CONSTRUCTION DOCUMENTS

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Revisions:	Date

CONSULTANTS:

ARCHITECT/ENGINEERS:

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Detroit, Michigan 48202-2798

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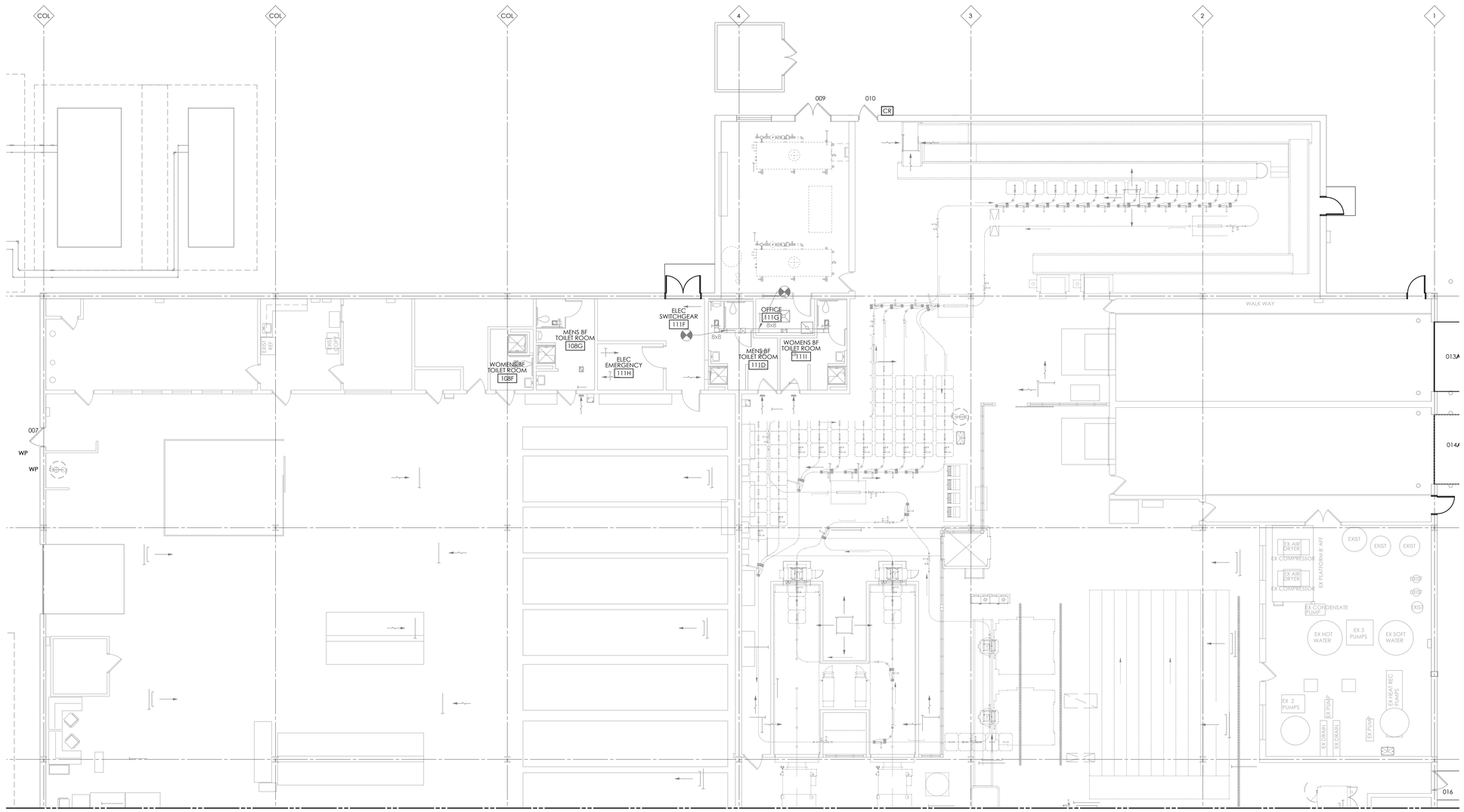
Drawing Title: FIRST FLOOR COMMUNICATIONS PLAN - AREA A
Approved: P. GARLAND

Project Title: RENOVATE B-145
Location: BATTLE CREEK, MICHIGAN
Date: 06/12/15 | Checked: PMW | Drawn: FED

Project Number: 515-10-122
Building Number: B-145
Drawing Number: EC101
Dwg. 67 of 78

Office of Construction and Facilities Management
Department of Veterans Affairs

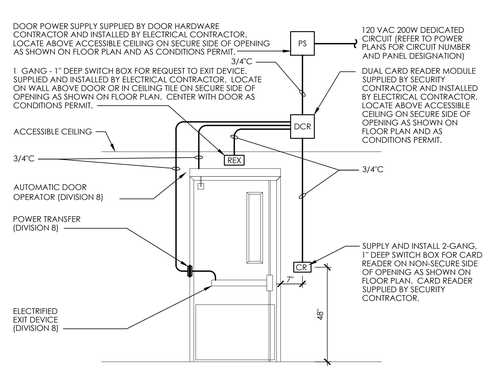
VA FORM 08-6231



FOR CONTINUATION SEE SHEET EC101

FIRST FLOOR COMMUNICATIONS PLAN - AREA B

1/8" = 1'-0"



NOTES:

1. STUB CONDUITS INTO ALUMINUM FRAME. USE FRAME FOR CONTINUATION OF WIRE RUN TO DEVICES.
2. POWER AND OTHER WIRING REQUIREMENTS FOR AUTO DOOR OPERATOR TO BE COORDINATED WITH AUTO DOOR CONTRACTOR.
3. DOOR CONTROLS SHOWN ON DRAWINGS ARE INDICATED TO DEMONSTRATE DESIGN INTENT. ACTUAL QUANTITIES AND LOCATIONS SHALL BE AS RECOMMENDED BY DOOR HARDWARE AND SECURITY CONTRACTORS. ELECTRICAL CONTRACTOR TO COORDINATE RACEWAY AND BACKBOX QUANTITIES AND LOCATIONS WITH DOOR HARDWARE AND SECURITY CONTRACTORS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. ALL CABLING BY DOOR HARDWARE AND SECURITY CONTRACTORS UNLESS NOTED OTHERWISE.
5. REFER TO DOOR SCHEDULE ON ARCHITECTURAL SHEETS AND DOOR HARDWARE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

1 CARD READER - AUTOMATIC DOOR DETAIL

NOT TO SCALE

GENERAL NOTES

1. REFER TO SPECIFICATIONS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS FOR COORDINATION OF ELECTRICAL DEVICES.
3. REFER TO CODE COMPLIANCE PLANS FOR FIRE BARRIERS, EGRESS PATHS AND TRAVEL DISTANCES ON SHEET G1002 THOUGH G1006.
4. REFER TO PHASING PLANS AND CONSTRUCTION ACCESS PLAN FOR COORDINATION OF ELECTRICAL DEVICES, EQUIPMENT, TEMPORARY PARTITION LOCATIONS, DEMOLITION AND INSTALLATION TIMING OF WORK ON SHEET NOS. GC100 AND IN SPECIFICATIONS.
5. REFER TO ARCHITECTURAL SHEETS FOR RATED WALL LOCATIONS, FLOOR SAW CUTTING AND REPAIR INFORMATION.
6. REFER TO MECHANICAL/ELECTRICAL SCHEDULES AND NOTES ON SHEETS ME601 FOR ADDITIONAL INFORMATION.
7. THE FOLLOWING SHADING INDICATES:

   SHADING INDICATES AREA OF EXISTING DEVICES, EQUIPMENT, AND FEEDERS TO REMAIN UNLESS NOTED OTHERWISE. AREAS FEATURING NO SHADING INDICATE WORK TO BE DEMOLISHED, FURNISHED AND INSTALLED UNDER THIS CONTRACT UNLESS NOTED OTHERWISE. ALL CIRCUITS/HOME RUNS OVERLAPPING WORK SCOPE AREA IS INCLUDED UNDER THIS CONTRACT.

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5. TYPICAL IN-WALL DATA OUTLETS SHALL BE 4"X4"X2 3/4" WITH SINGLE GANG MUD RINGS AND 1" CONDUIT TO OPEN SPACE ABOVE NEAREST LAY IN CEILING (NORMALLY IN THE SAME ROOM). REFER TO SHEET NO. EC501 FOR ADDITIONAL INFORMATION.
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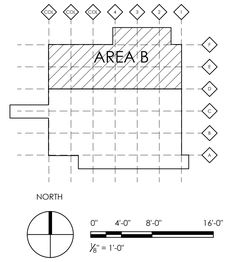
8. THE PLANS INDICATE DEVICES AND EQUIPMENT BEING REMOVED, RELOCATED, AND/OR REINSTALLED BY AN "(R)". ACTUAL QUANTITIES OF DEVICES MAY DIFFER FROM FIELD CONDITIONS DUE TO DAMAGE OR CHANGES IN HEALTH CARE OPERATIONS SINCE FIELD SURVEY. FURNISH AND INSTALL DEVICES AND EQUIPMENT TO MATCH THIS PLAN.
9. EXISTING TELEMETRY ANTENNAS AND TELEMED STATION A213 ARE TO REMAIN ACTIVE DURING CONSTRUCTION.



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CONSULTANTS:

ARCHITECT/ENGINEERS:

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7430 Second Ave.
Detroit, Michigan 48202-2798

Drawing Title: FIRST FLOOR COMMUNICATIONS PLAN - AREA B

Approved: P. GARLAND

Project Title: RENOVATE B-145

Location: BATTLE CREEK, MICHIGAN

Date: 06/12/15 | Checked: PMW | Drawn: FED

Project Number: 515-10-122

Building Number: B-145

Drawing Number: EC102

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Office of Construction and Facilities Management

Department of Veterans Affairs

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